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Drug and Cosmetic Industry

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Drug and Cosmetic Industry

March 1955 Vol. 76 No. 4

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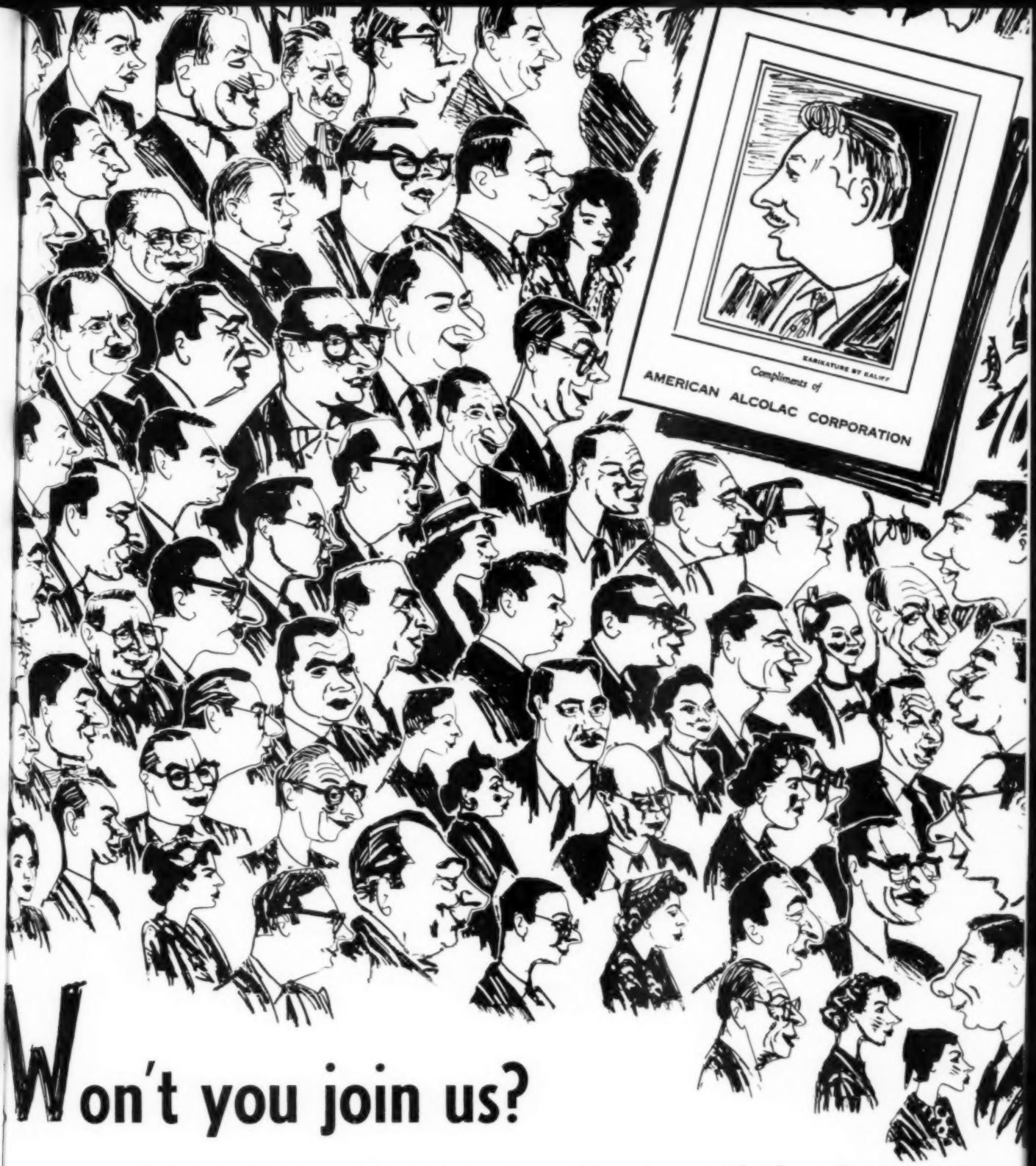

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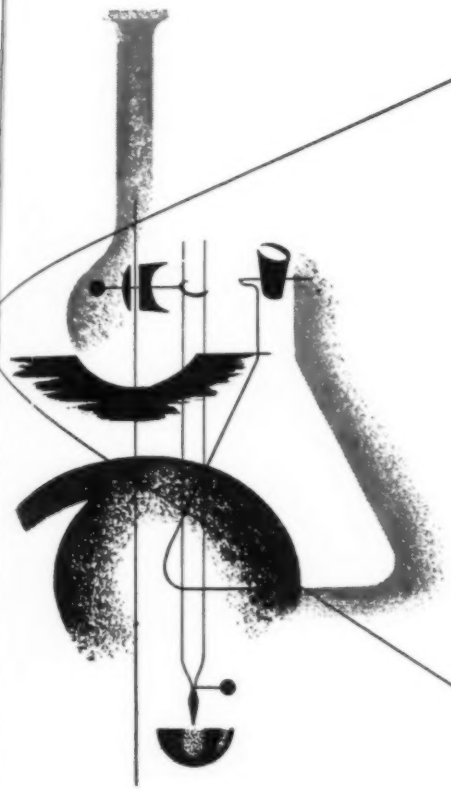

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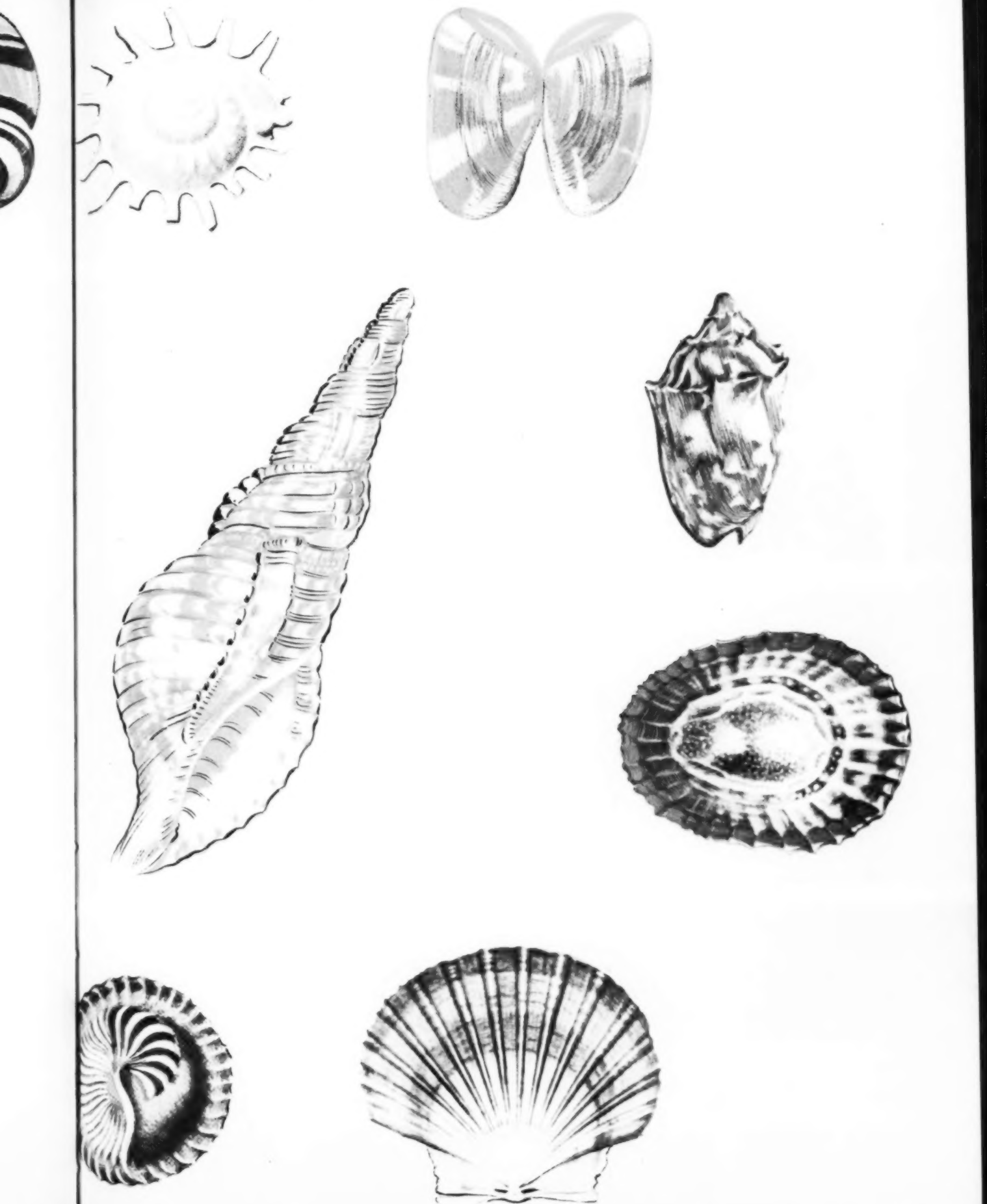

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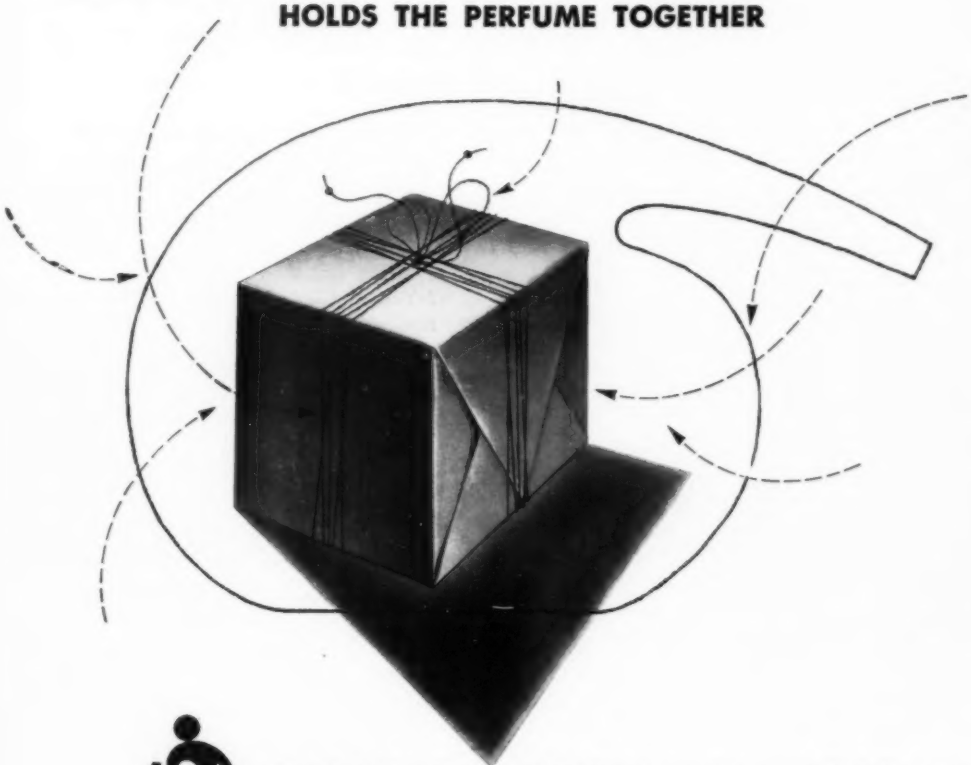

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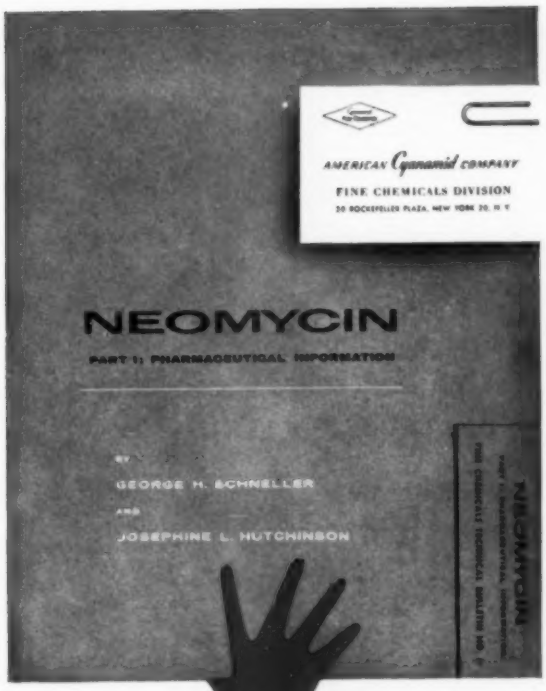

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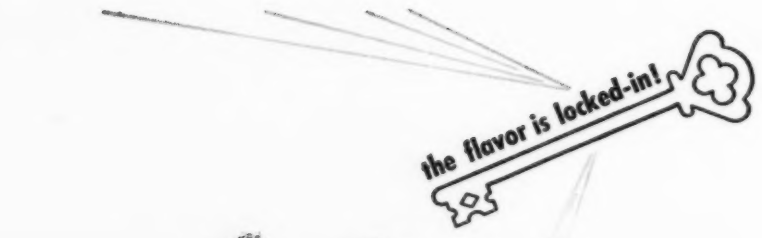

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U.S.I. CHEMICAL NEWS

Mar.-Apr. ★ A Series for Chemists and Executives of the Solvents and Chemical Consuming Industries ★ 1955

NEW POLYETHYLENE PLANT ON-STREAM

Integrated plant yields resin with consistent, controlled properties; Product to be marketed by U.S.I.'s nationwide sales organization.

Artist's drawing of National Petro-Chemical's new polyethylene plant, Tuscola, Ill.

Two grades of medium flow polyethylene resins are now being produced at a new plant in Tuscola, Illinois, it was announced by National Petro-Chemicals Corporation, and its two parent companies, National Distillers Products Corporation and Panhandle Eastern Pipeline Company. It is estimated that production during the first year of operation will be in excess of 26 million pounds. This plant is the most recent addition to the huge petrochemical facilities owned and operated by Petro at the same plant site. The plant is based on an I.C.I. process, modified by Petro to meet specific requirements of the plastics industry and it produces a high molecular weight polyethylene resin. Because of the integrated nature of the operation, a high-quality polyethylene resin is produced with consistent, controlled physical properties.

To Be Marketed by U.S.I.

Petro's polyethylene resins, under the trademark name "PETROTHENE", are being marketed through the nationwide sales organization of U. S. Industrial Chemicals Co., a Division of National Distillers Products Corporation. "PETROTHENE" resins are available in grades suitable for extrusion, compression, and injection molding, for use in the manufacture of films, bottles, pipe, etc. U.S.I. has sales offices in most major cities and warehousing facilities are being established in East Coast, Midwest and West Coast plastics market areas to assure prompt delivery to customers. "PETROTHENE" molding powder comes in cube form and is available in all quantities from 50 pound bags to carloads.

Made from natural gas

As shown in the flow diagram on the next page, the starting point in the production of "PETROTHENE" resins is natural gas pumped from two converging pipelines by Panhandle Eastern's Tuscola compressor station. Hydrocarbon extraction is the first step. Hydrocarbons are then liquefied under pressure and fractionated into ethane and by-product propane, butane and natural gasoline. The ethane is converted by "cracking" into

MORE

National Distillers Announces 2 Appointments

Dr. Hulse Named Director

National Distillers Products Corporation has recently announced the appointment of Dr. R. E. Hulse as a member of the company's Board of Directors. Dr. Hulse is Vice President in charge of all National's Chemical Activities. This includes the U.S.I. Division which produces and markets industrial alcohol; solvents; chemicals (including metallic sodium, sulfuric acid, anhydrous ammonia); polyethylene; and feed supplements. Dr. Hulse also serves as Vice President and Director of National Petro-Chemicals Corporation, the 60% owned subsidiary managed by National Distillers.

Vincent McCarthy to Direct Polyethylene Sales

In another recent announcement, Mr. Vincent McCarthy was appointed sales manager of "PETROTHENE" Polyethylene Resins for U. S. Industrial Chemicals Co., Division of National Distillers Products Corporation. Mr. McCarthy formerly was sales manager of extruded polyethylene products for Gering Products, Inc. His background embraces the entire thermoplastic raw materials field. Under direction of L. A. Keane, U.S.I. sales Vice President, Mr. McCarthy will supervise all polyethylene sales activities of U.S.I. Division Offices covering all major marketing areas.

SPECIAL NOTICE

Government Permits No Longer Required for Ethyl Acetate

As of January 1, 1955, all restrictions on the use of ethyl acetate have been removed, and denaturation of ethyl acetate no longer will be required. This is in accordance with U. S. Treasury Decision 6117, published in the Federal Register, Volume 19, Number 253, Part 2, Section 1.

This removal of regulations places ethyl acetate in the same category with any other ordinary chemical product, such as acetone, and manufacturers wanting to use or ship ethyl acetate of any grade no longer need obtain government permits and approval to do so.

January 21 marked the dedication of U.S.I.'s new ammonia plant at Tuscola, Ill. A model tank car was presented to Central Illinois Fertilizer Co., to represent delivery by U.S.I. of the first car of anhydrous ammonia for direct application to the soil. Attending the dedication and shown above, left to right, are: John E. Bierwirth, President National Distillers Products Corp.; Dr. R. E. Hulse, National Distillers Vice President and General Manager of National's U.S.I. Division; Dr. K. D. Jacob, U.S.D.A.; D. J. Patterson, U.S.I. Tuscola Plant Manager; C. R. Ware, President, Central Illinois Fertilizer Co.; Fred Jones, Mayor of Tuscola, Ill.

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Mar.-Apr. ★ **U.S.I. CHEMICAL NEWS** ★ 1955

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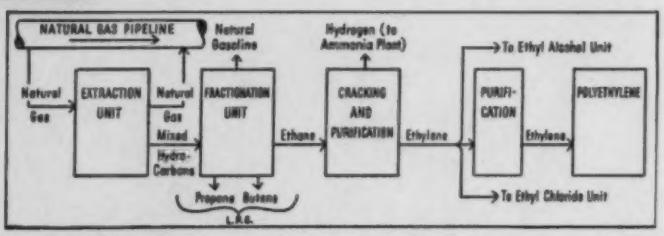
New Polyethylene Plant On-Stream



"Petrothene" polyethylene resins are made from natural gas as shown in this flow diagram.

ethylene and byproduct hydrogen. The ethylene is purified by low temperature distillation and feeds into the polyethylene unit for conversion into "PETROTHENE" resins.

Capacity can be expanded

According to Dr. Robert E. Hulse, Vice President of Petro, the new unit can be greatly expanded above its current production rate of 26 million pounds of polyethylene. The unit was designed for this future possibility, to insure a steady source of supply to customers in an expanding market.

In addition, the size of the laboratory facilities at Tuscola have been doubled to assist "PETROTHENE" customers with new developments and processing problems, as well as to provide the processing quality control necessary for a high-grade product.

Additional information is contained in the new "PETROTHENE" booklet. Copies sent upon request to Editor, U.S.I. Chemical News.

Methionine Alleviates High Altitude Anoxia

During recent studies, medical researchers found that human beings showed greater resistance to high altitude anoxia (oxygen deficiency) after injections of cysteine — one of the sulfur containing amino acids which can be derived from methionine in the body. Because of its expense and other considerations, cysteine is not used in practical work. However, biologically it can be supplied by administration of its precursor, methionine.

These research findings tend to confirm and add support to the view that cysteine and its precursor, methionine, play a definite and important role in preventing or alleviating the adverse effects of many different stress factors and extremes in environment.

Organosodium Compounds Opening New Frontiers

Organosodium compounds prepared from sodium dispersions are opening new, economical routes to the synthesis of phenylacetic acid, dimethyl phenylmalonate, benzophenone, and many others, including organotin, -phosphorus and -silicon products.

The organosodium compounds are prepared by reacting organic compounds with dispersed sodium. Phenyl sodium, for instance, is made by metering chlorobenzene into the sodium dispersion. The minute particles permit the reaction to start immediately and to produce high yields. Alaphatic, aromatic and heterocylic derivatives can be formed in this manner.

Sodium dispersions are suspensions of microscopic sodium particles (10-20 microns) in various hydrocarbons, such as toluene, xylene or kerosene. High speed agitation is used to disperse the molten sodium in the liquid hydrocarbon. These organosodium compounds can be made in any size vessel from a liter flask to a 1000 gallon reactor.

For detailed information, write for U.S.I.'s Sodium Dispersion Booklet. Free copies on request to Editor, U.S.I. Chemical News.

TECHNICAL DEVELOPMENTS

Information about manufacturers of these items may be obtained by writing U.S.I.

Many and varied uses are seen for a wide spectrum chemical (ethyl carbamate) with applications ranging from medicine to industry. Reacts with organic or inorganic compounds to form intermediate or end products of commercial importance. **(No. 1080)**

Pressure sensitive adhesive in a ball point dispenser for plant, office, school and home use is now on the market. It is said to bond paper to paper easily, yet make it possible to peel glued sheets apart whenever desired. **(No. 1081)**

Irradiated polyethylene samples for testing can now be bought. Maker reportedly will fill specifications for test lengths of tubes, extruded shapes, or rods. **(No. 1082)**

Seeds get off to fast, healthy starts when planted in hollow-center cubes of plant food material. Ideal for flower, vegetable seeds, these new cubes reportedly make planting, transplanting easier and more successful. **(No. 1083)**

Use of Vaccenic acid, trans-11-oleic acid, with its higher melting point and resistance to rancidity, reportedly will produce new aldehydes, acids, and other compounds of value in food, cosmetic, and industrial applications. **(No. 1084)**

New flexible labels for polyethylene squeeze bottles are said to give with bottle, yet return to its original shape when pressure is released. Applicable with conventional methods and equipment, the new labels are claimed to make possible real color and design in squeeze-bottle packaging. **(No. 1085)**

A "tamed" iodine germicide, that won't stain, sting or poison, is described as effective even in highly dilute solution against a wide range of micro-organisms, including polio virus and influenza virus. **(No. 1086)**

A powerful, completely nonstaining rubber antioxidant, of special interest for white or light-colored goods, shows retention of tensile strength after accelerated aging, the manufacturers state. **(No. 1087)**

To impart fire-retardant properties to latex-base paints, a new borate compound has been developed. **(No. 1088)**

New stabilizer and antiskinning agent for paint has high surface activity reported to keep heavy pigments in suspension. No milling with pigment paste required, just add to finished paint before viscosity adjustment is made. **(No. 1089)**

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Acetoacet-para-chloroanilide
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Ethyl Benzoylacetate
Ethyl Sodium Oxalacetate

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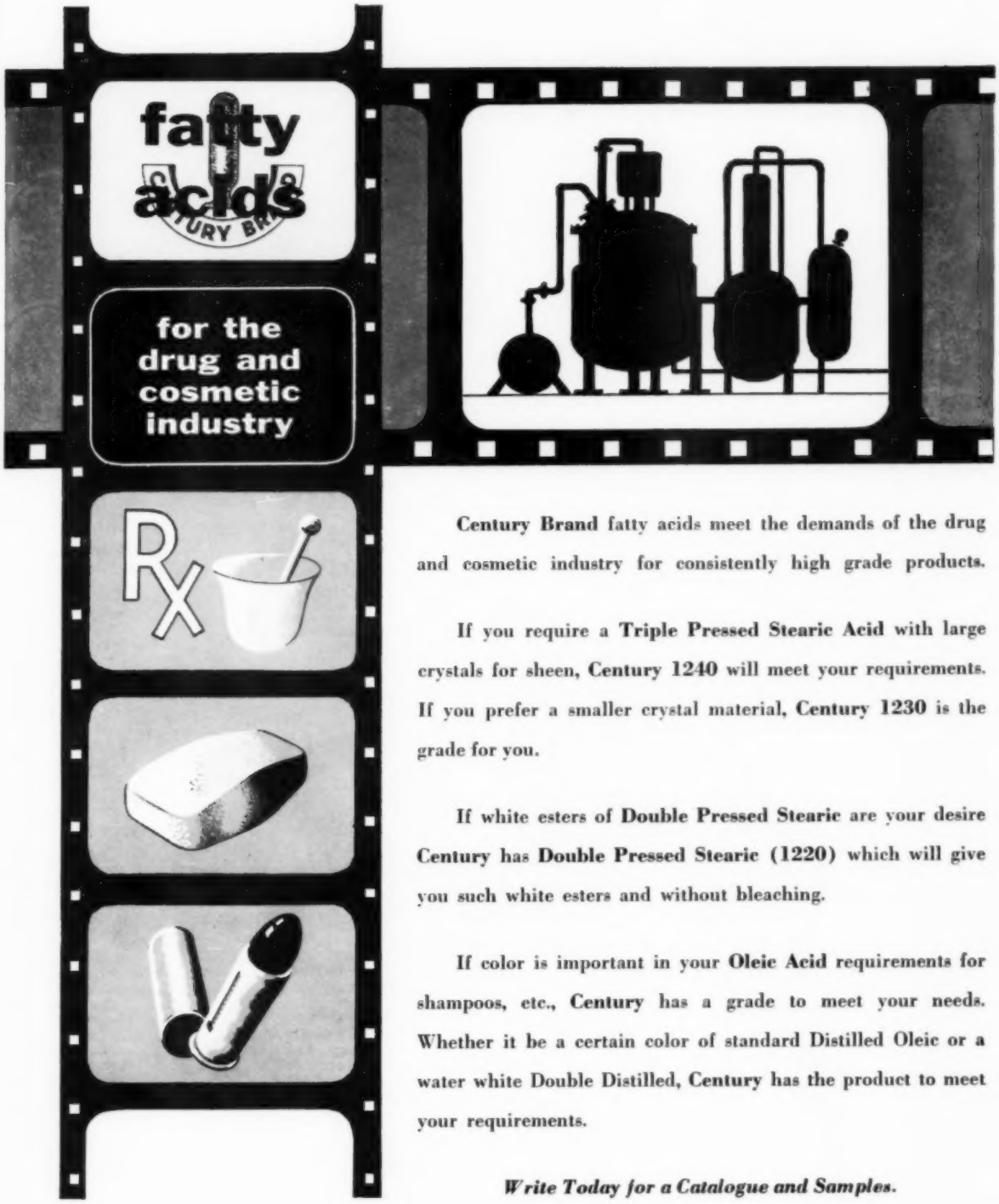

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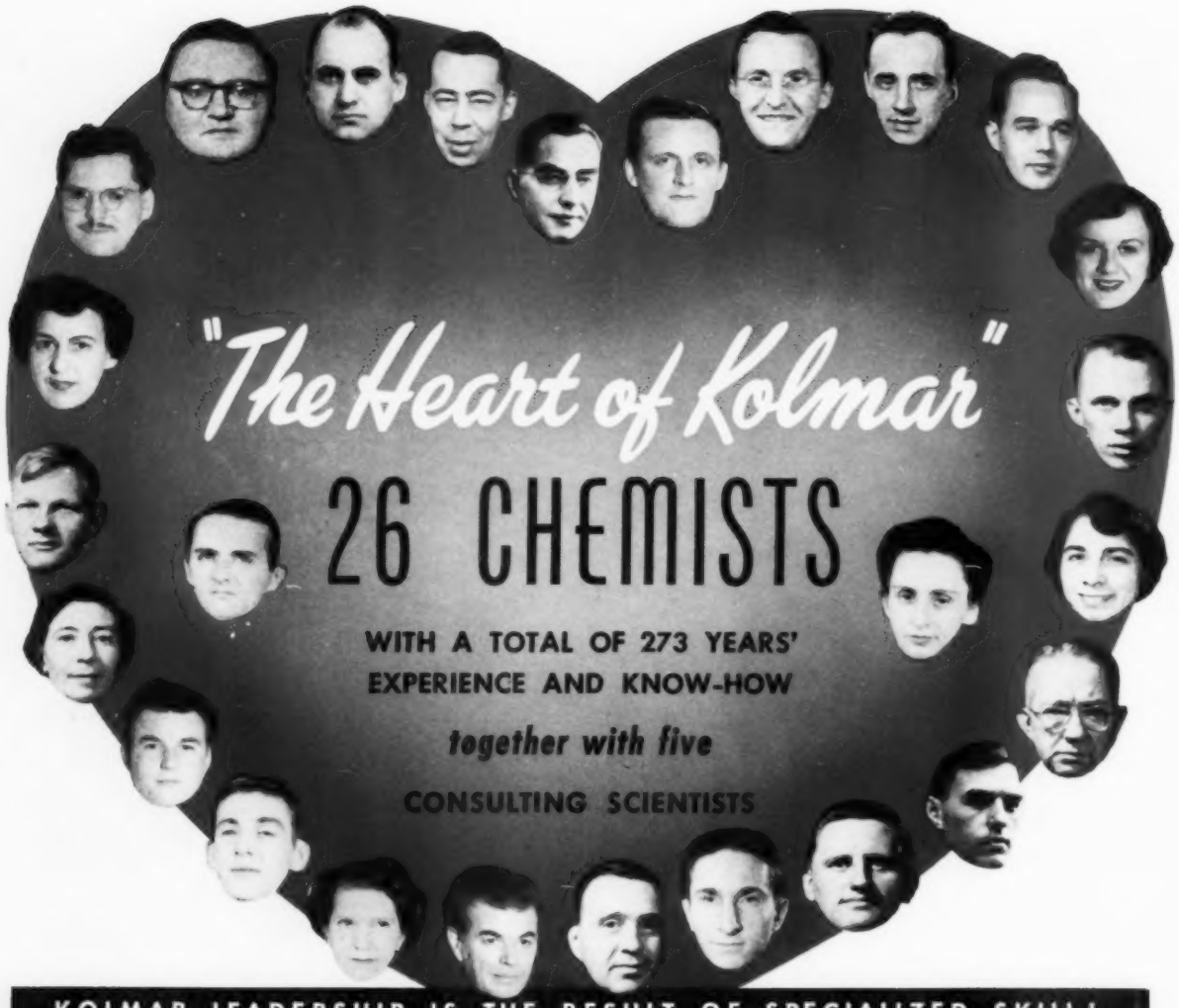
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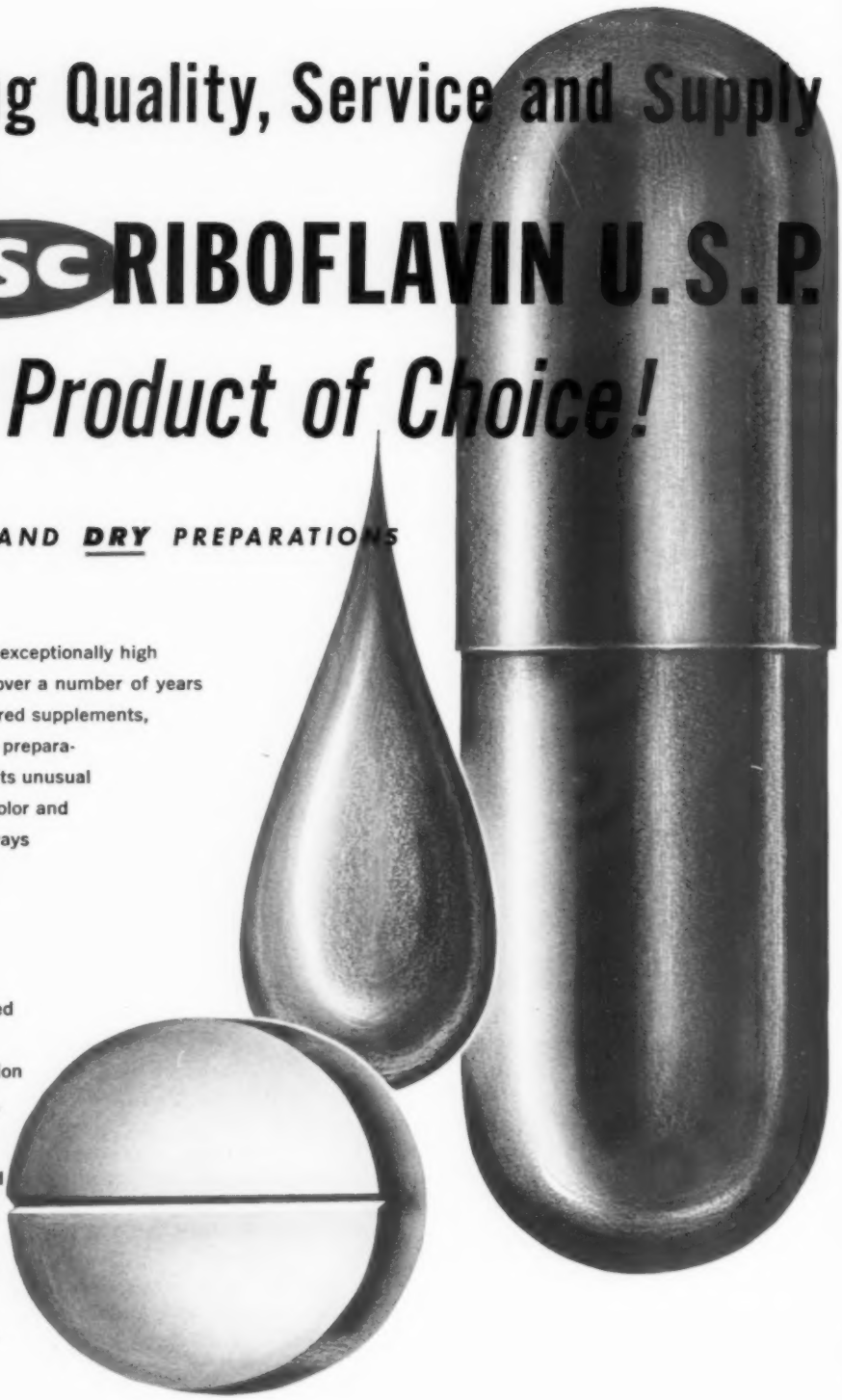

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in stearic acid

how Emersol 132 Lily improved consistency and texture of medicinal cream

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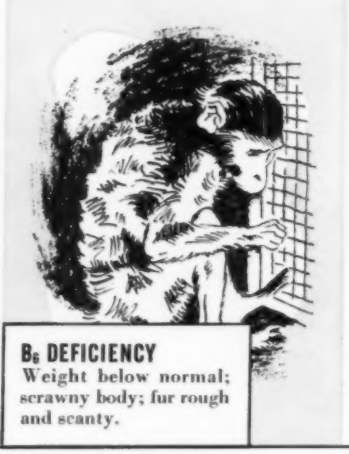
The rediscovery of VITAMIN B_6

Recent studies demonstrate the essential need for **PYRIDOXINE**

RECENT CLINICAL INVESTIGATIONS have confirmed the essential role of vitamin B_6 in infant nutrition. Convulsions were observed in young infants whose formulas lacked adequate amounts of vitamin B_6. Other data suggest that supplemental vitamin B_6 intake is desirable to guard against a deficiency that may accompany pregnancy.

A SPECIFIC SEBORRHEIC DERMATITIS is typical of B_6 deficiency and has responded readily to the vitamin. Vitamin B_6 has proved to be highly beneficial also in the treatment and prophylaxis of radiation sickness, with prompt control of nausea and vomiting. Experimental work indicates a distinct relationship between B_6 and arteriosclerosis in the monkey.

ADEQUATE B_6 INTAKE
Normal size and weight; well-developed body; sleek, glossy fur.



B_6 DEFICIENCY
Weight below normal; scrawny body; fur rough and scanty.

STUDIES at the Merck Institute for Therapeutic Research have disclosed striking differences between monkeys fed on a purified diet lacking in vitamin B_6 and those receiving the same diet plus vitamin B_6. While these studies do not necessarily apply to human beings, they nevertheless convey interesting implications about inadequate amounts of vitamin B_6 in the diet. Tremendous professional interest was aroused at leading medical conventions by an exhibit based upon this "living-proof" material. Merck conducts such scientific convention promotion to stimulate professional appreciation of vitamin products.

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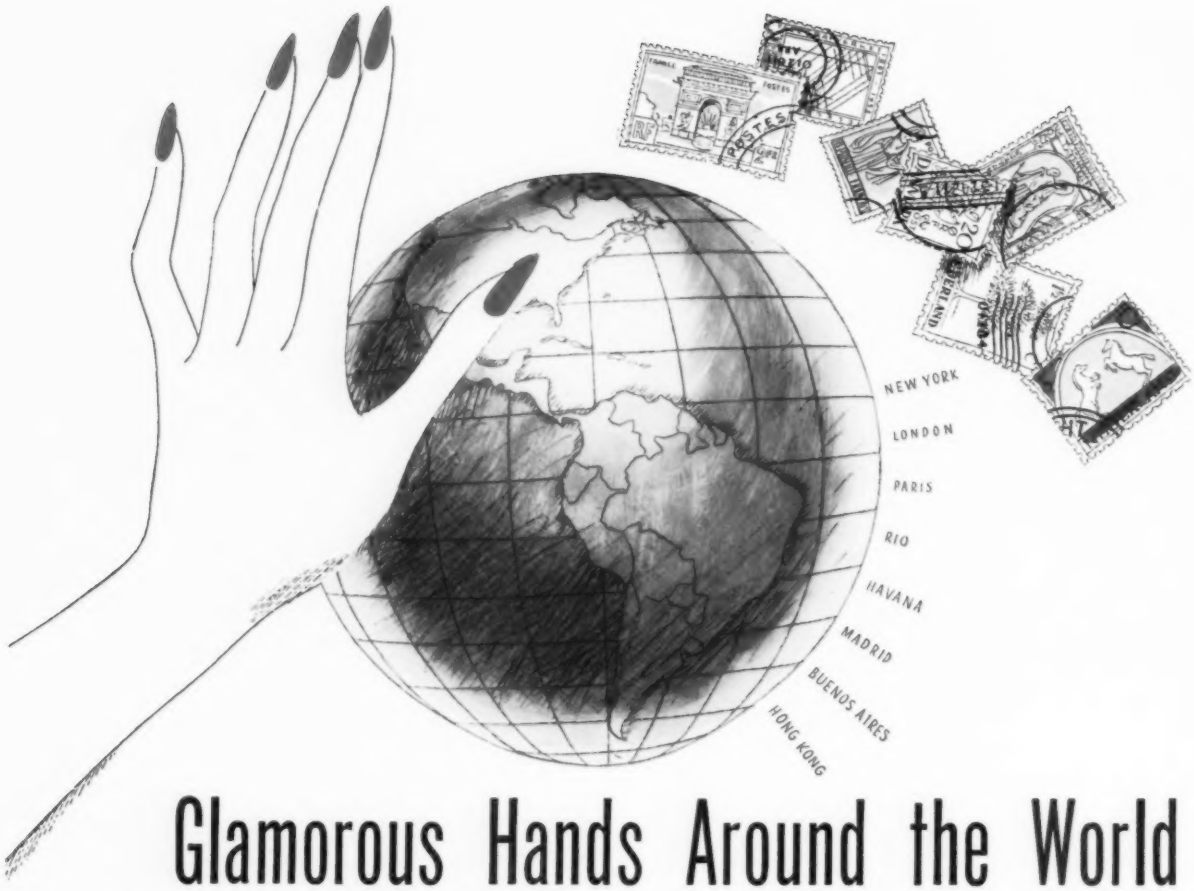

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Keeping Posted

Defend Fair Trade

The report of Attorney General Brownell's Committee to Study the Antitrust Laws, which called for repeal of the Federal fair trade legislation, was attacked before it was generally released by the Bureau of Education on Fair Trade and the American Fair Trade Council. The reason for the attacks before release of the committee report was the fact that the committee's attitude on fair trade in the report had been quite generally leaked to the press.

The Bureau of Education on Fair Trade said in part:

"Significantly, the Attorney General's Committee undertook no study whatever of resale price maintenance of which fair trade is only one of several legal bases. The Committee's report condemns fair trade as 'price-fixing' but remains silent as to other legal bases for resale price maintenance which are so widely used in our economy.

"The Attorney General's Committee was composed of 60 lawyers and economists, a number of whom were acknowledged opponents of fair trade prior to their appointment to the committee.

"In examining fair trade, the Committee held no public hearings, heard no witnesses, and conducted no surveys of the market-place. Advance reports indicate that the Committee's consideration of the fair trade laws simply sets forth the majority's own interpretation of all the pro and con arguments on the subject.

"All of these arguments were exhaustively weighed by the 82nd Congress in 1952 in connection with consideration of the McGuire bill. At that time, five Congressional Committees—the Senate and House Committees on Interstate and Foreign Commerce, the House Committee on the Judiciary, and the Senate and House Committees on Small Business—probed deeply into all aspects of fair trade. Extensive hearings were held and many pro and con witnesses were heard. There was intensive floor debate in both chambers. The result: the McGuire bill was passed by 196 to 10 in the House and 64 to 16 in the Senate."

Another statement by the Bureau reads:

"Actually, the fair trade laws, which have been operating for 24 years, constitute only one form of legally accepted resale price maintenance under which the producer of a trade-marked item establishes the consumer price for that item. Other forms of resale price maintenance more widely used than fair trade, include consignment selling and dealer franchises. Every newspaper and magazine sold on U. S. newsstands, for example, is sold through the resale price maintenance technique of consignment selling."

John W. Anderson, president of the American Fair Trade Council, points out that of the 45 states that enacted fair trade legislation, 44 still have laws in effect. The exception is Nebraska where the entire act was ruled invalid, primarily because of technical defects. Only the courts, not the legislatures, in four states—Arkansas, Georgia, Florida, and Michigan—have ever found reason to modify their fair trade laws. In these four states the fair trade acts were limited, by court decisions only, to apply only to retailers who actually signed fair trade contracts. No state legislature has ever repealed its fair trade law. In 15 of the 20 states where the constitutionality of fair trade laws have been challenged, their highest courts have upheld these laws. States having fair trade laws in effect account for 90.59 of the Nation's population based on the 1950 census.

T.G.A. Scientific Program

The program for the Spring meeting of the Scientific Section of the Toilet Goods Association, to be held May 12, at the Waldorf-Astoria Hotel, New York, has been announced by Harold C. Goulden, Scientific Director of the Association.

Papers to be presented are: Allantoin in Cosmetic Formulations, S. B. Mecca, Chemical Director, Schuylkill Chemical Co.; Laboratory Methods for Studying the Penetration of Topical Agents through Human Skin, Peter Flesch, M.D., Ph.D., Department of Dermatology, University of Pennsylvania Hospital; A Study of the acid Mantle Factor in Topical Applications, Irwin I. Lubowe, M.D., New York University Bellevue Medical Center; A New Method for Spectrophotometric Evaluation of Sunscreens, Saul I. Kreps, Chief Chemist, Van Dyk & Co.; Mechanism of the Action of Agents Used for the Relief of Dry Skin, Irvin H. Blank, Ph.D.,

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Merck Gets Vitamin B_{12} Patents

On March 1, the U. S. Patent Office granted U. S. Patents No. 2,703,302, and No. 2,703,303. These patents have to do with the production of vitamin B_{12} concentrate by fermentation of a strain of streptomyces, schizomycetes, torula, and eremothecium. Patent No. 2,703,303, which was granted to Edward L. Rickes and Thomas R. Wood, and assigned to Merck & Co., bore an application date of February 25, 1950. Patent No. 2,703,302, granted to the same scientists and also assigned to Merck & Co., bore an application date of December 8, 1952.

It will be recalled that Merck announced isolation of vitamin B_{12} from liver in April 1948. Less than a year later, Merck announced production of the vitamin by fermentation. It was then said to have first been isolated from a mold, a first cousin of the mold which produces streptomycin. The product was then made available to physicians generally.

Merck obtained a patent on crystalline vitamin B_{12}. However, shortly after Merck's announcement of availability of vitamin B_{12}, other companies flooded the market with vitamin B_{12} concentrates. These have been produced by most of the drug companies who were producers of streptomycin. One of these companies has been said to have an in-and-outer as far as production was concerned. They would stop production and buy their requirements, only to return to production because they had discovered ways of improving their process. It would now appear that Merck owns the sole patent rights to production of B_{12} concentrate by this process.

Pfizer 1954 Activities

In its annual report Pfizer says that sales of Terramycin reached the highest level since its introduction in 1950. At the close of its fifth year of operation, the Pfizer Laboratories Division had a sales base of 25 pharmaceutical products in more than 250 dosage forms, and a sales force of 575 men servicing more than 4,000 wholesale and retail accounts—in sharp contrast with the single product in 13 dosage forms sold by 100 professional service representatives to 400 wholesale distributors in 1950, the year the Division was established. Bonamine and Cortril (hydrocortisone) were among new products whose sales reached significant proportions in 1954. The policy of selling directly to selected drug stores, inaugurated in 1953, proved highly satisfactory and the number of these accounts was increased from approximately 1,500 to over 4,000 during the year. It was through these outlets that Candettes, the division's first over-the-counter product, achieved a sales volume that exceeded expectations. The cooperation of these retail outlets also contributed to the Company's increased share of the penicillin and streptomycin markets, in spite of intensified competition.

The Chemical Sales Division managed to increase the units of products sold but fell behind in dollar volume due to sharply lower prices in a number of major products. Thiamine and ascorbic acid suffered 25 per cent price reductions and vitamin B_{12} declined 18 per cent. The decline in the price structure of penicillin and streptomycin continued during the year, stabilizing somewhat, but remained at fairly low levels during the last quarter. The hormone market, similarly, presented an unstable pricing situation. Significant increases in the sales volume of ascorbic acid, vitamin A, tartar products, and caffeine were recorded. Principal reason for the increase in ascorbic sales was the reception given to promotion of this product for treatment of prepared meats.

Pfizer's Agricultural Sales Division increased its sales approximately 38 per cent. Pfizer spends "more than $6 million per annum" on research.

Cosmetic Chemists Program

Skin geriatrics and the role of cosmetic science in treating the social and physiological aspects of aging skin will be feature topics at the Spring meeting of the Society of Cosmetic Chemists to be held at the Biltmore Hotel, New York, May 13. Problems arising from the conflict between today's increasing life span and modern society's continuing accent on youth will be discussed, and the preventive and remedial benefits of cosmetic treatment of aging skin will be demonstrated.

Another highlight of the all-day session will be the luncheon presentation of the Society of Cosmetic Chemists $1,000 prize for published works of value in the field of cosmetic technology. The Special Award, being made for the first time this year, will be an annual event. Dr. Stephen Rothman, professor of Dermatology at the University of Chicago, will receive the 1955 award in recognition of his outstanding contributions to scientific literature in 1953-54. The selection was made by a specially-appointed Literature Review Committee of distinguished specialists in various branches of science bearing on cosmetic technology, which committee cited Dr. Rothman for his book "Physiology and Biochemistry of the Skin," which provides a summary of present knowledge of skin physiology. The book covers 33 years of research into dermatological problems and is expected to aid cosmetic chemists in finding more effective means of protecting skin from the deteriorations of age and environment. Shorter works by Dr. Rothman, also judged by the committee, include significant studies on acne and other skin lesions.

Papers to be presented at the morning and afternoon sessions are: Topical Uses of Antibiotics—Vehicles Employed, William S. Baker, Director of Antibiotic Sales, S. B. Penick & Company; Acetylated Lanolin Derivatives, Lester Conrad, Technical Director, American Cholesterol Products; Foam Transition and Foam Persistence, M. B. Epstein, Head of Application Research Department, Onyx Oil & Chemical Company; Film Properties and Compound Formation in the Sodium Lauryl, Sulfate-Lauryl, Alcohol-Water System, Dr. A.

Bettman Archive

KNOWN BY REPUTATION

STEPHEN HALES (1677–1761). English physiologist, chemist and inventor. Well known for his experiments on blood pressure. Illustration shows him as he tied a mare to a gate and laid open the jugular vein. In it he inserted a glass tube and observed gradual rise of blood column.

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Wilson, Senior Chemist, Physical Chemistry Division, Research and Development Department, Colgate-Palmolive Company; The Social and Economic Aspects of Skin Geriatrics, Dr. E. Henderson, Medical Director and Vice-president, Schering Corporation; The Anatomy and Histology of Aging Skin, Dr. Warren Andrew, Professor of Anatomy, Wake Forest College, the Bowman Gray School of Medicine; The Chemistry of Aging Skin, Dr. Peter Flesh, Dermatologist, Department of Dermatology, University of Pennsylvania; The Structural Proteins in the Epidermis and Their Relation to Aging Skin, Dr. C. Carruthers, Cancer Research Scientist (Biochemistry), State of New York Department of Health, Roswell Park Memorial Institute.

Trading Stamps and Food Stores

Trading stamps in food stores are causing repercussions. The Kroger chain seeks to give battle to the stamp plans of its two competitors in a half a dozen Wisconsin stores by giving customers a penny cash refund on each half-dollar of additional purchase after the first fifty cents. Safeway Stores treasurer Selby "Sees no place for trading stamps costing the merchant 2.5 per cent (of his sales) in an industry which operates on a net profit of less than 1.5 per cent."

Fair Trade in Virginia

Fair trade received another blow last month when the non-signer clause of Virginia's Fair Trade Act was declared unconstitutional by Judge Robert L. Young of the Law and Equity Court in Richmond. Judge Young declared that the non-signer clause in the act violated "liberty and due process clauses" of the state constitution. He also called this section of the law "an unlawful delegation of legislative power to private persons." The defendant had termed it "price fixing by remote control." The case was brought by the Benrus Watch Company which sought an injunction to prevent a Richmond dealer from selling Benrus watches during a 1953 trade-in sale below prices set in an agreement with another Richmond dealer. Naturally the issue will have to be decided by the highest court in Virginia before the fate of fair trade in that state will be known.

Chewing Gum for Tooth Decay

Now its chewing gum to retard dental caries. Subjects who chewed gum after rinsing the mouth with a glucose solution showed less tendency toward acid formation than when no chewing took place, it was reported by Drs. A. A. Yurkstas and William Emerson of Tufts College Dental School, Boston, to the 33rd general meeting of the International Association for Dental Research. The effect of gum chewing on dental plaques was evaluated through pH readings on 45 subjects. A pH drop below 5.5, which has been termed "the critical level of decalcification," occurred 50 times among abstainers from gum and 14 times when the same subjects chewed gum after the rinse. Minimum pH readings averaged below 5.5 in seven subjects under control conditions, but only one fell into this category after chewing gum. The doctors report that not all chewing gums result in the same magnitude of salivary secretion (to wash away the sugar), nor do they inhibit pH drop in the same degree. Of three gums used after a glucose rinse, one (Dentyne) was followed by an average drop of 0.40 pH units and the others by 0.62 and 0.71 respectively. Lower sugar content, as well as greater saliva-stimulating capacity, may account for the result, the investigators believe.

Sterling Drug Facts

Sterling Drug, Inc. reports that medicinal products accounted for 78 per cent of total sales for 1954 o $164,264,262; household products and industrial products accounted for 11 per cent each. These percentages are unchanged from 1953. Also new sales records were established by Philips' Milk of Magnesia, Bayer Aspirin, and Z.B.T. Baby Powder. Pharmaceutical products represented a higher percentage of sales of medicinal products than ever before.

Satisfactory Cosmetic Ingredient Bill

Representative Priest, Chairman of the Committee on Interstate and Foreign Commerce of the House of Representatives has introduced HR-5036, entitled "A Bill to Amend the Federal, Food, Drug, and Cosmetic Act, as amended, with Respect to New Cosmetic Ingredients." The bill is designed to meet recent criticisms of the Food, Drug, and Cosmetic Act to the effect that cosmetic ingredients should be pre-tested in a manner similar to that required for "new drugs" under the present act, points out S. L. Mayham, executive vice-president of the Toilet Goods Association. This bill is said by Mr. Mayham to be radically different from the Delaney bill, recently introduced by Representative Delaney of New York, and is far more appreciative of the requirements of industry while at the same time being at least equally protective of the health of the public.

The Priest bill defines a new cosmetic ingredient as a component of a cosmetic which is not generally recognized as safe for use for this purpose under normal conditions of use. However, products which have been used as cosmetic ingredients to a material extent since the passage of the Food, Drug, and Cosmetic Act of 1938 are not to be considered new cosmetic ingredients and therefore do not come within the provisions of the Priest Bill.

The bill provides that no person may introduce or deliver for introduction into interstate commerce any new cosmetic ingredient unless an application for approval has first been made effective. It provides, however, that any person, whether a supplier of a new cosmetic ingredient or a user thereof, or in fact any other person may file such application which must contain full reports of investigations made to show that such ingredient is safe.

After such application has been filed, the Secretary has 60 days for approval unless he finds that he cannot complete his studies and investigations within that time. If he does, he must give notice in writing of an extension or postponement, but the total time for approval or rejection may not be more than 180 days. The bill provides for a hearing for the applicant before any application is disapproved and the Secretary must advise the applicant at such hearings in what respect his application is deficient.

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The bill further provides that the Secretary may suspend an approved application if tests by new methods show that the cosmetic ingredient is unsafe or when the application contains any untrue statement of material facts.

The bill also provides that judicial review shall by-pass the U. S. District Court and go straight to the U. S. Circuit Court of Appeals in the Circuit in which the applicant resides or has his principal places of business. However, in such appeals the findings of fact by the Secretary must be sustained by the Court, if supported by substantial evidence when considered on the record as a whole.

A final provision amends Section 705 of the present Food, Drug, and Cosmetic Act relating to publicity by the Secretary. Under the present law the Secretary may cause to be disseminated information regarding foods, drugs, devices, or cosmetics where, in the opinion of the Secretary, imminent danger to health or gross deception of the consumer is involved. The new Section would compel the Secretary, whenever he has reason to believe that imminent danger to health or gross deception of the consumer is involved in a food, drug, device, or cosmetic, which would include components, ingredients, chemicals, or additions, to cause this fact to be publicized along with such information as may have led to that conclusion by sending a notice, not only to the manufacturer of the product and the supplier of the suspected material, but to the trade publications and trade associations in the affected industries.

The bill does not include the highly objectionable complete ingredient labeling of the Delaney Bill, nor does it permit interference with products which have been on the market and safely used for many years, unless adulteration or misbranding under the present law is found. The Delaney bill would open every cosmetic to study and possible action by the Food and Drug Administration.

While the Toilet Goods Association sees no necessity for any amendment of the law with respect to cosmetics, the Association does believe that some sort of pretesting provision for new chemicals offered for cosmetic use might be desirable in view of the rapid advances made in chemical science and technology, says Mr. Mayham, who states further:

"The Priest bill would seem to provide for adequate pre-testing of such new products and to place the initial burden of such testing where it rightfully belongs, upon the purveyor of such products for cosmetic use, while at the same time it does not prevent any cosmetic manufacturer who desires to use a new cosmetic ingredient, from applying for approval even if his supplier does not apply. Accordingly, the Association considers that the Priest bill as introduced is an acceptable measure to the industry and adequately protective of the public and will offer no objection to its enactment."

Mr. Mayham expresses the personal opinion the final provision of the Priest bill with respect to compulsory publicity "would be sufficient to cure any ills imagined by proposers of new cosmetic legislation similar to the Delaney bill. No purveyor of a cosmetic in his right mind would go counter to a suggestion on the part of the Food and Drug Administration that there is something wrong with such ingredient. This final provision of the Priest Bill provides that the Administration must publicize the fact immediately."

American Home High in Ethicals

American Home Products Corporation reports a sales increase for 1954 of seven per cent. Total sales for 1954 were $219,188,492, compared with $204,874,947 for 1953. Ethical drugs accounted for 44 per cent of the total or $96,442,937. Packaged drugs and cosmetics accounted for 20 per cent of the total or $43,837,698. This makes a total of all drugs and cosmetics of $140,280,635. Food products accounted for 20 per cent of the total of $43,837,698, and household products accounted for 16 per cent or $35,070,159.

Rexall Reports

Rexall Drug, Inc., reports that during 1954 the number of company-owned stores was reduced from 270 to 202, and both of its combination "drugrocery" stores in the Los Angeles area were sold at a profit. Also the number of franchised stores was increased to 11,580 from 11,500. Rexall sold the Franklin Hosiery Mills last year, and in February of this year the company sold the Mansfield Chocolate Company. Riker Laboratories had "unusually favorable results" in 1954. V.C.A. Laboratories had a substantial loss in 1954, but transfer of the Newark, N. J. production facilities to St. Louis, with a consequent reduction in overhead, and improvement of Rybutol inventories "greatly improve the outlook for V.C.A. in 1955." Sales and profits of the "Seamless" group of subsidiary companies manufacturing rubber specialties and cotton products declined last year. Totaled sales declined to $176,138,112 in 1954, compared with $189,243,671 in 1953. However earnings were higher at $3,266,619, against $3,156,424 for 1953.

Collapsible Tubes Up

Collapsible tube shipments in January totaled 88,224,192 compared with 76,394,736 for January, 1953, a 15.48 per cent increase, and 80,198,064 in December, 1954, a 10 per cent increase, and starting out at a rate of approximately one billion tubes a year. Metal tubes for shaving creams recorded the largest gain. The 6,223,904 units for this purpose in January were 70.5 per cent greater than January 1954, and 24.5 per cent above December 1954. Gains over both January and December 1954 were registered for medicinals and pharmaceuticals and for household and industrial products. As usual, tooth pastes accounted for the bulk of tube shipments, 34,420,176 units, or 47.83 per cent of the total, 2.92 higher than January 1954, but off 2.97 per cent from December 1954.

Extended Blue Cross—Blue Shield

A plan under which catastrophic illness would be covered by the Blue Cross-Blue Shield has been approved by the national organization. Although 70 days is the average limit allowed under the present contracts, the new plan would include protection up to two years. The new plan would provide coverage for mental dis-

turbances, chronic alcoholism and drug addiction, as well as so-called "catastrophic" illnesses such as tuberculosis and terminal cancer cases. The plan calls for subscribers to pay 20 per cent of the total cost under a deductible provision similar to that contained in automobile collision policies. The plan also contains several additional benefits, including private duty nursing service, covering 80 per cent of such charges for 240 hours of service after the first twenty-four hours. It is estimated that the added protection would cost individuals an extra 75 cents to $1.25 a month, and $2 to $3 more monthly for family coverage.

Seven to Market Salk Vaccine

Since a year ago, the number of producers of the Salk vaccine for control of poliomyelitis has increased from five to seven. These are Cutter Laboratories, Lederle Laboratories, Eli Lilly and Company, Parke, Davis & Company, Pitman-Moore Company, Sharp & Dohme, and Wyeth Laboratories. The two newcomers are Lederle and Sharp & Dohme. Anticipating a favorable report as the result of the evaluation of nationwide application of the vaccine—which anticipation is based on their knowledge of results—these manufacturers have been increasing their capacities and accumulating stocks of the vaccine so that distribution through wholesalers, druggists, doctors, clinics, and other outlets would be immediately possible once the favorable report was published.

Parke, Davis Reports

The 1954 report of Parke, Davis & Company again proves that Chloromycetin is a real item. Sales for Chloromycetin for 1954 totaled $25,774,484, against $25,904,073 in 1953. Total sales for 1954 were $109,936,424, against $109,852,079 in 1953. P. D. President H. J. Loynd says the following about this important drug:

"As physicians gain additional experience with Chloromycetin, they discover that it possesses outstanding clinical advantages. There is increasing evidence that many disease-producing bacteria have developed resistance to certain other antibiotics, rendering them relatively ineffective in many patients the physician is called upon to treat. In contrast, there appears to be no bacterial resistance to Chloromycetin, and this characteristic is being consistently stressed in published reports from outstanding investigators."

Merck Cites Price Cuts

Sales of Merck & Co. for 1954 declined to $145,460,000, from a 1953 sales total of $160,002,000. This decrease is wholly due to price declines since the company states that "if the Company had had the benefit of 1953 average sales prices on the unit volume of business done in 1954, there would have been approximately $18,000,000 additional sales. The Company further states:

"An extensive research program on synthetic steroid compounds was continued during the year, and a number of new compounds synthesized in our laboratories are under clinical investigation to determine their medicinal value. New antibiotics are also being studied. Expenditures for research and development during the year were approximately $7,300,000, compared with $7,020,000 for 1953."

Avon Establishes New Records

Avon Products, Inc., reports record sales of $55,059,039 for 1954, up 17.1 per cent from the 1953 figure of $47,033,052, which was the previous record. Earnings for 1954 established a new record at $4,885,795, almost double 1953 earnings of $2,413,337. The Company invested $961,681 in new equipment and facilities during 1954, including the addition of 24,000 square feet to the manufacturing facilities in Pasadena, Calif. Major investment was in new equipment to increase capacity and improve operating efficiency at each production unit. The Company has contracted for purchase of 18 acres in Morton Grove, Illinois, a suburb of Chicago, on which will be built an office and manufacturing unit of 350,000 square feet. This building will house manufacturing facilities for serving the Middle West, the Company's Chicago Branch Office now located in the Merchandise Mart Plaza, and the Company's Chicago warehousing and shipping unit now located in the North Pier Terminal.

Pfizer Gets Safety Plaque

For an outstanding record of only six lost-time accidents in nearly two and one-half million man-hours of operation, the Groton (Conn.) plant of Chas. Pfizer & Co. won special recognition from its insurance carrier. In a ceremony held at the Pfizer plant, an engraved plaque was presented to D. V. Vines, personnel manager, by Robert Misslbeck, New Haven safety engineer for Employers Mutuals of Wausau, Wis. This is the second such trophy merited by Pfizer's Groton plant, the first being presented in 1952.

Father John's Medicine—100 Years

This year marks the 100th anniversary of Father John's medicine first compounded in the drug store of Carleton & Hovey in Lowell, Massachusetts. Father John's Medicine, prepared by Father John's Medicine Company, Lowell, Massachusetts, and Montreal, Canada, was originally a prescription prepared for Reverend Father John O'Brien of Lowell on June 9, 1855. The old prescription book of that year is still carefully preserved.

Father John, as he was affectionately known to his people, afterwards recommended the medicine to his friends and parishioners. In going to the drug store and calling for it they always asked for Father John's Medicine, and in this way the medicine got its name and was so advertised. The medicine is a cod liver preparation combined by the company's own special process with sugar, gum arabic, glycerin, caramel, licorice and flavoring. It is recommended for relief of coughs due to colds and throat irritation resulting from colds because of its soothing effect on the throat. It is also recommended as a tonic for convalescents and for children who lack sufficient vitamins A and D.

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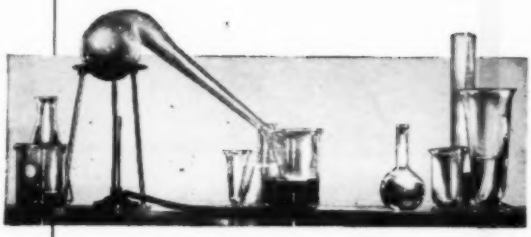

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Just as the drug store has changed its face, so we have changed our methods of production, keeping abreast of the latest developments in new machinery, packaging, quality control, and pharmaceutical research. Behind all this development and industrial expansion lies the simple homely idea that for us to stay in business our customers must prosper. To keep their business we must do their job better.

The Strong Cobb Research and Production teams, like scientists and businessmen everywhere, thrive on new problems. If you are planning production of a new product or need assistance with one that you are now marketing, call us . . . we will welcome the opportunity to cooperate with you. Our three plants are specifically located to handle the production and distribution of your products.

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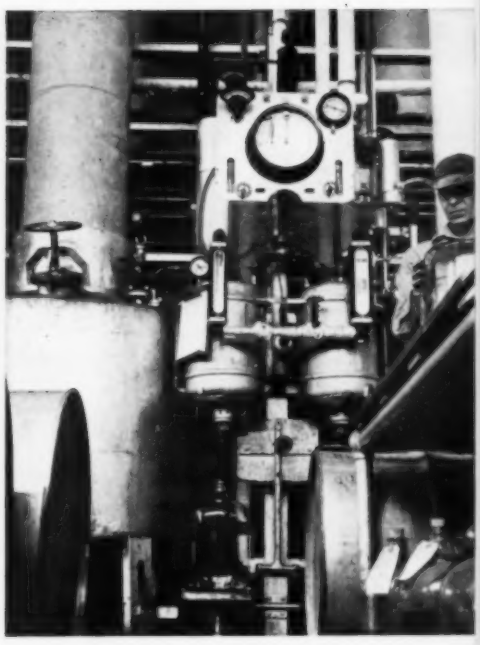

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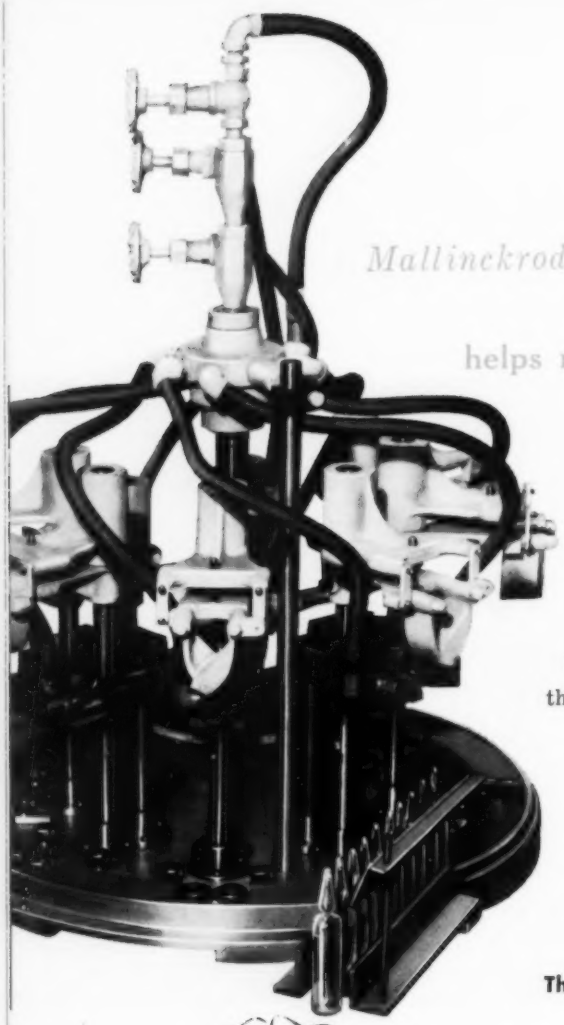

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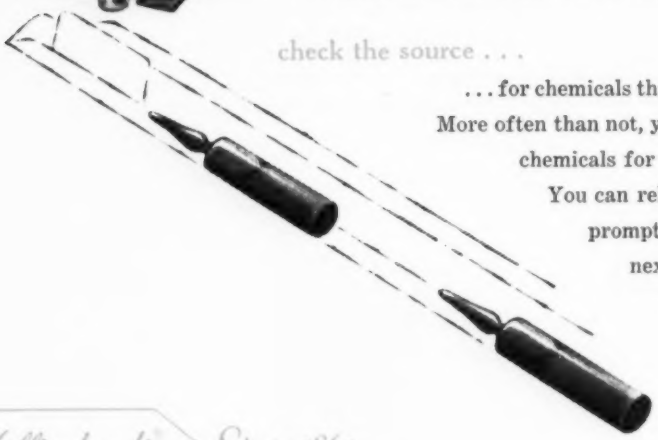

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SAGA of a NEW HORMONE

by Norman Applezweig

PRESIDENT, NORMAN APPLEZWEIG ASSOCIATES, CONSULTING BIOCHEMISTS

In recent months we've learned of the discovery of three miracle drugs by three leading pharmaceutical houses. On closer inspection it appears that all three products are one and the same hormone. If you're at all curious about how more than one name can apply to the same compound it might be worth examining the chain of events that occur in the making of a miracle drug.

The physiologist usually discovers it first—quite accidentally, while looking for two other hormones. He gives it a name intended to denote its function in the body and predicts that the new compound should be useful in the treatment of a rare blood disease. From one ton of beef glands, fresh from the slaughterhouse, he finally isolates ten grams of the pure hormone, which he turns over to the physical chemist for characterization.

The physical chemist finds that ninety-five per cent of the physiologist's purified hormone is an impurity and that the remaining five per cent contains at least three different compounds. From one of these he successfully isolates ten milligrams of the pure crystalline hormone. On the basis of its physical properties, he predicts a possible structure and suggests that the function of the new compound is probably different from that assigned to it by the physiologist. He changes its name and turns it over to the organic chemist for confirmation of structure.

The organic chemist does not confirm the structure suggested by the physical chemist. Instead he finds that it differs by only one methyl group from a new compound recently isolated from watermelon rinds, which, however, is inactive. He gives it a chemical name, accurate but too long and unwieldy for common use. The compound is therefore named after the organic chemist for brevity. He finally synthesizes ten grams of the hormone but tells the physiologist he's sorry that he can't spare even a gram, as it is all needed for the preparation of derivatives and further structural studies. He gives him instead ten grams of the compound isolated from watermelon rinds.

The biochemist suddenly announces that he has discovered the new hormone in the urine of pregnant sows. Since it is easily split by the crystalline enzyme which he has isolated from the salivary glands of the South American earthworm, he insists that the new compound is obviously the co-factor for vitamin B-16, whose lack accounts for the incompleteness of the pyruvic acid cycle in annelids. He changes its name.

The physiologist writes to the biochemist requesting a sample of his earthworms.

The nutritionist finds that the activity of the new compound is identical with the factor PPF which he has recently isolated from chick manure and which is essential to the production of pigment in fur-bearing mammals. Since both PPF and the new hormone contain the trace element zinc, fortification of white bread with this substance will, he assures us, lengthen the life-span and stature of future generations. In order to indicate the compound's nutritive importance, he changes its name.

The physiologist writes the nutritionist for a sample of PPF. Instead he receives one pound of the raw material from which it is obtained.

The pharmacologist decides to study the effect of the compound on grey-haired rats. He finds to his dismay that they lose their hair after one injection. Since this does not happen in castrated rats, he decides that the drug works synergistically with the sex hormone, testosterone, and therefore antagonizes the gonadotrophic factor of the pituitary. Observing that the new compound is an excellent vasoconstrictor, the pharmacologist concludes that it should make a good

(Continued on page 571)

Cationic Emulsifiers in Cosmetics

by Harry Hilfer

COURTESY RICHARD HUDNUT

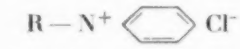
With the greater interest now being shown by cosmetic manufacturers in preparations which are acidic in character to approximate the so-called "acid mantle" of the skin, there has been a greater interest in the quaternary ammonium compounds for use as emulsifiers for that purpose. Strictly speaking, in defining these compounds they are characterized by a pentavalent ionic nitrogen present as a salt of an in organic acid and the nitrogen organic combination with four radicals represented as

$$RR'R''N^+Cl^-.$$

The cation of these compounds is strongly basic and therefore requires a strong acid to neutralize it. The compounds used in cosmetic manufacture, however have a relatively long chained radical as one of the components in the structure, usually a twelve carbon chain or greater.

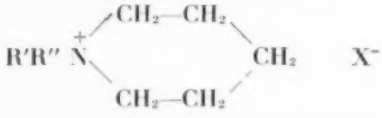
The compounds made from the lower molecular weight chain (12 carbon atoms) show strong bactericidal properties, but as the chain length is increased this property is usually lessened. With the loss of bactericidal properties there also appears to be a lessening of the irritational possibilities, generally speaking. This does not mean that all 12—carbon quaternaries are equally irritating—since the irritational index varies with the different types of compounds—but there is strong evidence that an 18-carbon quaternary is less an irritant than a 12-carbon quaternary of otherwise the same structure.

There are several different types of structures now available—the best known is probably the type depicted above. In addition there are the quaternary salts of alkyl pyridinium halides having the general structure



when the three bonds attached to the Nitrogen in the pyridine ring substitute for three radicals.

The morpholinium salts are represented by



where R′ represents a long chain alkyl and R″ a shorert radical.

These compounds despite their structural differences all exhibit the typical reactions of quaternary ammonium compounds. We do not have the space here for their consideration except as they may effect cosmetic formulation. Any further information may be found in any of a number of reference works on quaternaries.

As can be seen from the ionic structures the long lipophilic group bears a positive change and the short hydrophylic group a negative change. For this reason quaternaries may be regarded as invert soaps where the charges are reversed:

$$R\,CO_2^-\;Na^+$$

According to emulsion theory, however, the quaternaries could satisfy the general considerations of having a lipophile and hydrophile group present and the fact that they bear changes opposite to the better known anionic emulsifiers need not detract from their ability as emulsifiers. Because of this structure they will react with anionic compounds to form a complex:

$$R\,COO^-\;Na^+ + R_3'N^+\;\;Cl^- \rightarrow R\,COO\;NR_3' + Na^+ + Cl^-$$

and since the R in the anionic compound is usually a long chain and at least one of the R's in the quaternary is a long chain, the resultant compound will usually drop out of solution and have no emulsifying properties to speak of. Quaternaries therefore cannot usually be

(Continued on page 550)

COSMETICS in 1954

Sales of perfumes, cosmetics and other toilet preparations at retail, excluding toilet soaps, reached a total of $1,086,800,000 in 1954, according to estimates made by The Toilet Goods Association in collaboration with the editors of Beauty Fashion Magazine, the retail trade paper for the cosmetic industry. This represented an increase of 6.4 per cent above the previous record volume which was established in 1953.

The increases in sales seemed to be spread pretty uniformly over the entire list of products and there were very few outstanding products or groups of products which accounted for it. One of those which did show a substantial increase, although still in the "minor" category, was the aerosol hair lacquer spray, which continued to gain sharply. Shaving creams, also in the so-called "minor" category, gained approximately eight per cent over the 1953 figure, most of which was accounted for by the growing popularity of aerosol products. On the other hand, dentifrices showed a loss in volume for the first time in a considerable number of years. This loss was probably due to the fact that no new development in dentifrice formulation such as those of the last few years took place in 1954 and the market, therefore, had an opportunity to settle down from its highly disturbed and emotional state.

For the first time in several years perfumes appear to have shown a slight increase, but the remainder of the fragrance business was, in general, static, so that the entire group of fragrance products increased only very slightly. Turning to the outlets through which this business was done, sales through independent and chain drug stores continued to decline in 1954, and accounted for 30.2 per cent of the total. Department store sales showed a slight gain and accounted for 22.5 per cent. Most of the loss in drug stores appeared quite naturally to have fallen into the hands of food outlets such as grocery supermarkets, who increased their share of the business to approximately 17.1 per cent. House-to-house sales continued to gain although at a somewhat lower rate and in 1954 amounted to 19.4 per cent. Limited price variety stores lost slightly as is normal in times of considerable prosperity. They accounted for 7.5 per cent of the total.

Other outlets accounted for 3.3 per cent. In these estimates sales to beauty and barber shops for use therein are not included. Only retail sales to the public are reported.

The following table shows sales through the various types of outlets since 1950:

	Chain & Ind. Drug Stores	Dept. Stores & Spec. Shops	Food Stores	House to House	Limited Price Variety Stores	All Other Outlets
1950	37.0	27.0	6.1	14.0	11.0	4.9
1951	36.0	25.5	8.5	16.2	10.0	3.8
1952	34.5	22.0	14.0	17.5	8.5	3.5
1953	32.0	22.1	15.5	18.3	8.4	3.7
1954	30.2	22.5	17.1	19.4	7.5	3.3

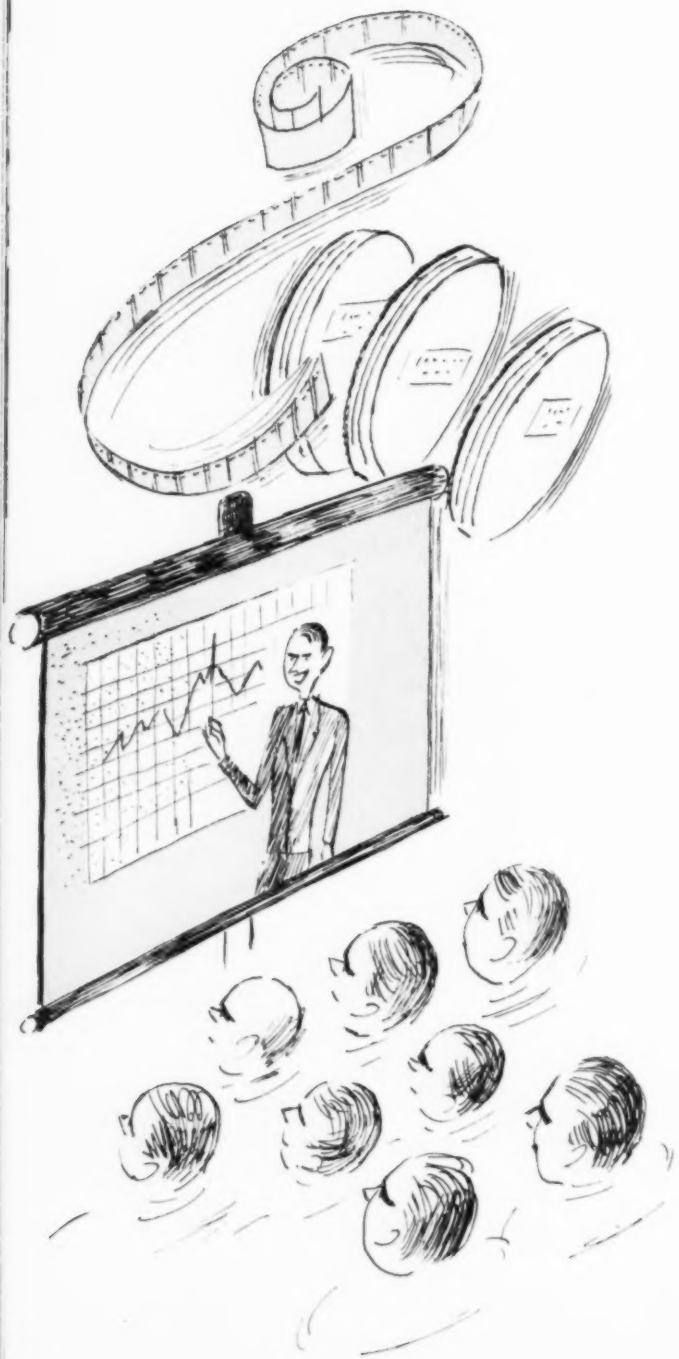
The following table shows estimated volume of sales at retail since 1914 (not including toilet soaps):

YEAR	SALES IN MILLIONS OF DOLLARS	YEAR	SALES IN MILLIONS OF DOLLARS
1914	39.8	1934	324.4
1915	45.0	1935	322.1
1916	71.5	1936	336.5
1917	95.4	1937	374.0
1918	103.7	1938	412.3
1919	116.5	1939	425.1
1920	129.5	1940	449.9
1921	126.0	1941	463.6
1922	147.3	1942	481.4
1923	194.6	1943	507.5
1924	220.3	1944	593.0
1925	256.4	1945	711.3
1926	300.2	1946	758.2
1927	329.7	1947	743.8
1928	355.2	1948	749.8
1929	378.4	1949	770.8
1930	336.2	1950	840.1
1931	297.1	1951	912.8
1932	288.4	1952	1,004.0
1933	300.3	1953	1,020.8
		1954	1,086.8

Medical Films in

by Spencer M. Fossel

DIRECTOR OF CLINICAL PROMOTION
ORGANON, INC., ORANGE, N. J.
PRESIDENT OF THE PHARMACEUTICAL ADVERTISING CLUB

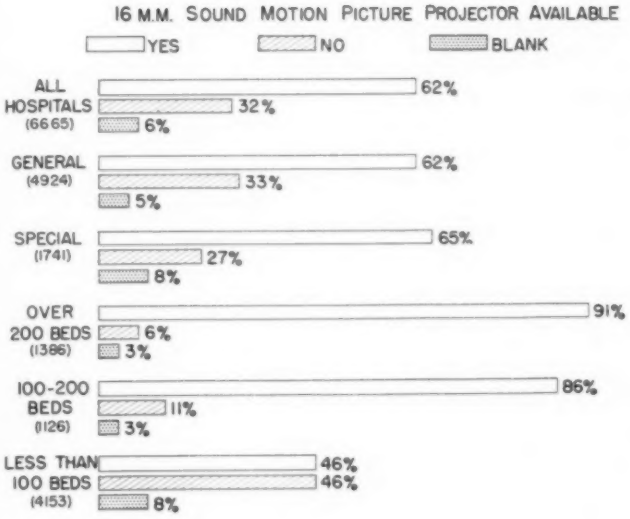


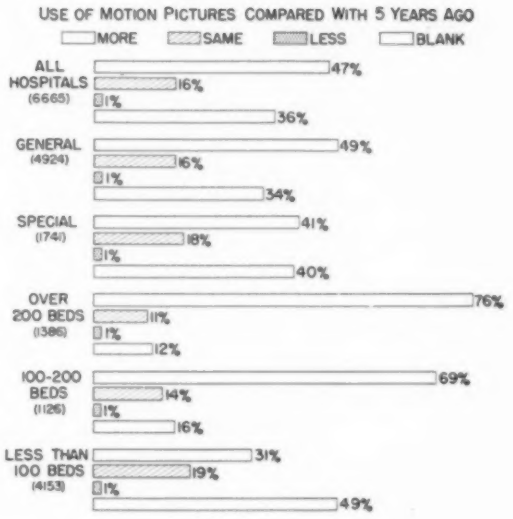
Films will play a significant role in the promotion efforts of the pharmaceutical industry. Before this can be successfully done some of our concepts must change. First excessive commercialism should be avoided as this has been a significant factor in the failure of films to achieve their deserved position in pharmaceutical promotion. This discussion will be concerned with the lecture film, conference film, and what might be termed a text-book film. The lecture film offers one of the most promising avenues of promotion for the industry. Every pharmaceutical manufacturer knows the value of a publication in a well-accepted medical journal and yet, with such a publication, we reach a surprisingly small audience. If you can imagine taking a paper published in one of the most accepted medical journals and bringing it to life with sound, color, visualization of the author, charts, and other aids, you have some idea of the real possibilities of a lecture type film.

One prominent professor recently stated that in his opinion a way will have to be found to bring much wanted lectures to all physicians in the country. He finds it impossible to travel as extensively as is necessary to fill the many speaking engagements offered to him. Yet this investigator feels that a physician who has the opportunity to do medical research owes a certain obligation to bring the results of his work to as many physicians as possible. During the course of our discussion, this physician agreed that the lecture-type film would be a good solution to the problem and would be well received by the medical profession.

Other leading men of medicine have also expressed a sincere interest and a desire to participate in such a program. We can be reasonably confident that physicians will cooperate in such a program and contribute the best of their work through lecture films. When we consider the various audiences that are available for such lecture films, we can see the tremendous possibilities of reaching large audiences with each film. Take for example, the hospital Staff Meetings throughout the country, these Program Chairmen face a problem and would welcome a lecture-film when presented by a physician, well-known for his work in a particular field of research. Films can be made interesting and helpful to the practicing physician and not be extended over ten minutes. One method of presenting them would be to use a stage setting that would give the audience viewing the film the same impression and the same view

pharmaceutical promotion





that they would have sitting in a major medical convention. Slides, charts, and blackboards can be utilized. Patients too can be demonstrated. The cost for a film of this type will be from $2,000 to $2,500, depending upon the length, the producer used, and the method of producing the film. A very successful film can be produced with good interest qualities and at a cost that is feasible and logical. This avenue of pharmaceutical promotion can only be utilized well by the pharmaceutical company that has good research facilities and a well developed program of clinical investigation.

A speaker can be selected to present various problems of interest to the medical world as a whole and also of considerable interest to the pharmaceutical company. The proposed speaker can record and film his lecture by spending several hours at a selected studio. The Art Department can be extremely effective in preparing visual material. Another distinct advantage this method of promotion has is the possibility of bringing the results of medical research to the practicing physician much more rapidly than is possible through a medical journal. We all know the length of time it usually takes for a physician to prepare his paper once he has completed the actual clinical investigation, and then the long waiting period of six months, a year, or even longer before it is published in a medical journal. Another aspect that can be considered is that of the medical convention. At each of the important meetings the papers of most interest could be selected. In this way a film from the particular medical convention can be prepared and then released to medical groups throughout the country. A summary film would serve to provide the latest information in film form to much larger groups than are reached at the convention. We then have three types of lecture films that can be used. First, the lectures presented at a medical meeting; second, investigators can be selected because of their contact with the company's research department; and third, a review or status type of lecture. In this third type an outstanding authority in one field of medical research would review the present knowledge of the problem, and bring the most complete understanding possible to the practicing physicians of the country. We all recognize the tremendous value of having leading men of medicine present our products, or the work that has been done on our products to the medical profession as a whole. Their word carries considerable weight as compared with our own advertising and promotion efforts through journal advertising, mailings, and other approaches. A third procedure can be considered, by having a medical school sponsor each film, or have it ac-

(Continued on page 569)

Perfuming Problems

by Dr. O. L. Marlon, SHULTON, INC.

Once an odor composition is established for a certain toiletries or cosmetic item and the perfume formula is finished, it may appear somewhat puzzling to the uninformed that the perfuming of other toiletries or cosmetic items belonging to the same line should cause any more trouble than the perfuming of the first item. After all, most of the well-known fragrances, whether single flower odors or fancy bouquets, exist on the market in perfumes, toilet waters, colognes, aerosols, powders, sachets, bath salts, bubble baths, soaps, creams, face and hand lotions, shampoos, hair lotions, etc.; in other words, all items, forming together what is commonly known as a complete toiletries or cosmetic line, do exist with the same scent and are marketed by the same company under the same trademark or fragrance name. The only thing that is commonly known to be *different* in a line is the nature of the various toiletries items—in fact, the various items are bought by the consumer to serve different purposes, but the odor is the same—or at least it is sold under the same name.

Why, then, should it be difficult to use the same fragrance for perfuming a whole line? This is where the perfumer and scientist comes in. The answer lies just in the recognition of the vast differences in physical nature of the media making up the various toiletries and cosmetics, as well as in the differences in chemical nature.

Let's speak of the physical differences first. Speaking of physical matters—all three types of state of matter—solids, liquids and gases—are encountered in the compositions of toiletries and cosmetics, and further, each type occurs in various modifications. True, a cake of toilet soap is a *solid*, but so are granules or crystals of bath salts, or fine powders, such as dusting powder and talc—just to name a few solids. Of course, they are different, not only in physical but also in chemical nature. Or, the *liquids*. There are alcoholic liquids, such as perfume, toilet waters or shaving lotions on one side—and aqueous milky lotions on the other side, such as cream hand lotions, cream shampoos, hair lotions, etc. Both types may just be liquids to the consumer, because they both flow out of a bottle, yet they behave vastly different when it comes to perfuming, as will be seen later. And last, but not least—we have the gas or vapor phase inherent to practically every toiletries item or cosmetic, namely the perfume odor itself—probably the most important part of each item marketed or sold.

To make things even more complicated, there are products which in texture or consistency lie in between two states of matter, such as shave creams or hand creams, which in physical appearance are between solid and liquid. Each of them represents an individual, complicated mixed system of two or three phases in one item, namely, colloidal systems of either oil-in-water type, where finely divided materials of solid nature, such as waxes or fats, are dispersed in the aqueous phase, or of such colloidal system where liquid materials are dispersed in a liquid phase. To make things worse, the opposite type, water-in-oil emulsions also occur in cosmetics, with another material always present—the perfume—perceived and appreciated by our noses in form of its vapors only, although added as a liquid. Therefore, to devise *one* perfume oil and to expect it to work equally

COURTESY SEVENTEEN MAGAZINE

well in all these media of such vastly differing physical nature would be tantamount with trying to feed one type of nutrient only to all living beings, whether human beings, animals, birds, insects or fish, and to expect that they all will thrive equally well.

No, it's the nature of the beast that decides what it wants to eat, and it's the nature of the toiletries or cosmetic item that decides how a perfume must be compounded in order to make the item smell satisfactory.

Suppose now, that for the purposes of investigation and explanation of the physical differences of cosmetics and toiletries their chemistry could be persuaded to stop being active (a thought as likely to succeed as trying to get the sun to stop shining)—and suppose chemistry *could* be temporarily disregarded as a problem in the perfuming of the various items—the enormous physical differences *alone* existing in cosmetics and toiletries items would be more than sufficient to explain why there *must arise* serious difficulties for a perfumer who would try to make all items smell the same by incorporating one and the same perfume oil in all of them.

Now, if toiletries and cosmetic bases, as well as the perfumes used for scenting them, would all be chemically inactive, which they are *not*, the picture of per-

(*Continued on page 566*)

Accelerated Shelf Testing

by Gabor B. Levy, Ph.D.

After a pharmaceutical product has been carefully formulated and the manufacturing procedures worked out, its stability characteristics must be determined before marketing. To be sure it will stand up for at least one or two years in storage, it should be kept under storage conditions and observed for that length of time. This is obviously impractical. Moreover, small changes in formula or procedure, after marketing, would again require long delay, which is unacceptable.

Accelerated tests provide a means for shortening the testing time. For example, a light switch which is ordinarily used but a few times a day can be switched on and off many times each minute so that a year's normal use can be compressed into one hour. Usual pharmaceutical stability problems are only concerned with shelf-life under ordinary storage conditions, so that the only variable is time, which cannot be telescoped. Therefore, the conditions of storage have to be changed to severe extremes so that deterioration of the product occurs within reasonably short time. This can be done by raising the temperature, since all chemical reactions are accelerated at elevated temperatures. To evaluate the test, the degree of speed-up or acceleration at this higher temperature, compared with ordinary storage temperature, must be determined.

According to an old rule of thumb, a rise of 10° C. doubles the reaction rate. Although this rule has a sound theoretical basis and is valid in a number of simple cases it is not directly applicable to more complex cases such as pharmaceutical products. This inability to correlate the degree of acceleration, or exaggeration, in tests at elevated temperatures is recognized in the industry. A study of R. H. Blythe, based on replies from the pharmaceutical industry to 40 questionnaires, shows that: "The storage of liquids at 37° C. may be considered two times normal by some and 20 times normal by others, and storage from 50° C. to 60° C. likewise is considered two times by some and 25 times by others." It is further stated in the discussion that: "in making accelerated tests and then in making predictions as to how products will behave during two or three-year life span, you are taking calculated risks". The aim of the present discussion is to show that a little more calculation can materially reduce the risk.

It is evident that the uncertainty of assessing the acceleration "exaggeration", at the higher temperatures is due to the fact that some preparations behave differently than others. By lumping them all together only a vague guess is possible. However, sorting out the various problems, some will yield to exact analysis. Others may not; but in the former case there will be almost no risk involved in predicting shelf-life and only the cases which are not easy to analyze will be subject to the usual guess work. There is occasionally an inherent difficulty in that the pharmaceutical preparation is in a different condition at higher temperatures. In such cases an accelerated test is not possible at all because the test is done actually on a different preparation than the one intended. An obvious example would be the testing of suppositories at temperatures above their melting point. Less obvious cases should not be overlooked, in which, e.g. water of crystallization is lost, a suspending agent coagulates, or components become immiscible. Conversely, the stability of many seemingly complex systems may be governed by one predominant factor. Thus, it is usual for diffusion at an interface to dominate the picture and its temperature dependence can be established without undue difficulty. Therefore, a complex system of several compounds in two phases may present a simple problem on analysis.

This is best illustrated by a "case history." The problem was the stability of an emulsion containing eight ingredients distributed between an aqueous and non-aqueous phase. Since the inherent stability of the components was known the problem was reduced to the stability of the emulsion itself and the question was simply whether this emulsion would separate into the two component phases within a few year's time. The density of the phases was determined and was found to be slightly different. Therefore, we assumed that under prolonged storage the lighter component would eventually float to the top and coalesce, the rate depending on the viscosity, temperature changes, etc. This problem is rather complex, when all things are considered, but the driving force is buoyancy and this simplifies the problem. To exaggerate the conditions, the emulsions were subjected to centrifuging at normal storage temperature and it was found that a fixed degree of separation took varying times, depending upon the speed of centrifuging. These data, rpm versus time, did not seem to exhibit an exact relationship. However, by converting rpm to centrifugal force and plotting the data on double logarithmic paper perfectly straight lines were obtained with all preparations of this type. From the plot a reasonable equation and reasonable mechanism for the process could be deduced. With

this on hand, data representing only several hours or days of centrifuging could be safely extrapolated to several years of storage stability at the earth gravitational field, the actual driving force of separation on the shelf. The equipment necessary for this work was only a temperature controlled centrifuge. The individual runs ranged up to one week, but little actual attention or work was involved and the evaluation of data took but a few hours. The total time to complete the project was about six weeks and our prediction did not involve vagueness or "calculated risks." Experience since has shown that the product was stable for the predicted time.

The example illustrates that a difficult stability problem, which may seem insurmountable by a complex colloid chemical approach, can yield to simple arithmetic, if judiciously used.

When the acceleration is accomplished by elevated temperatures the procedure may be equally simple. The equipment needed is a controlled temperature cabinet into which replicate samples of the material on test are placed. The temperature is adjusted to the highest practical temperature i.e. below the point at which the preparations undergo gross changes (melting, boiling, loss of crystallinity etc.). Periodically, samples are withdrawn and analyzed for degree of decomposition. After the loss of the active ingredient is determined in three or four consecutive samples, the data can be evaluated and the *rate* of decomposition established. Frequently there is a constant rate (characteristic of catalyzed reactions or diffusion phenomena), i.e. the same amount of material is decomposed in the same time interval. In other cases the same fraction of the material is lost. Data of this type may appear irregular but they will fall on a straight line when plotted on semi-logarithmic paper. After order is brought into these data a similar set is taken at two or three lower levels of temperatures.

These when evaluated properly will give the exact temperature dependence of the decomposition reaction.

It is then possible to make predictions without any guess work that a given product will show one per cent decomposition at 25° C. in, say, two years time and two per cent at 35° C. in the same time interval. The labor involved will be small, of the order of 15 individual determinations, and the answer may be available within a few weeks.

In some cases such a simple analysis is not possible because the course of the decomposition reaction is too involved. In such cases the recognition of this fact may be of value by itself. A case in point is the decomposition of penicillin solutions. It was found that such solutions behave in a seemingly irregular fashion. The reason for this was found subsequently in the autocatalytic nature of the reaction. Acid hastens the inactivation of penicillin and, in the reaction, more acid is produced. Therefore, once penicillin solutions start losing activity there is a rapidly increasing rate until all potency is lost. The recognition of this situation lead to buffered preparations.

This illustrates that data, unsuitable for exact pre-

(*Continued on page 577*)

COMING

Nearly one-third of the entries in the coming U.S.P. XV—242 out of 860—are new, according to Dr. Lloyd C. Miller, U.S.P. Director of Revision. A few of these products represent drugs which have been returned to U.S.P. status after being out of that compendium for some years. Some other of these new entrants in the U.S.P. have been official in the National Formulary for five years or more. However, Dr. Miller points out, 102 of the 242 new entrants are truly new drugs, or distinctively new combinations of drugs which have not heretofore been official. In several instances these new drugs were not even known in 1950 when U.S.P. XIV went to press. The antibiotic, tetracycline is one of these, as is hydrocortisone. In U.S.P. XV there will be five monographs on various forms of tetracycline.

Other new drugs to appear for the first time in U.S.P. XV are six antibiotics, eleven antihistaminics, seven diagnostic aids including sodium radio-iodine which is used for therapy, and seven biologicals. The remainder of the 102 new drugs cover almost the entire range of therapeutics from antibiotics to the zinc salt of undecylenic acid.

Perhaps the greatest difficulties in drafting adequate specification standards were encountered in connection with cortiotropin (ACTH), hyaluronidase, and hexachlorophene soap, according to Dr. Miller. Almost as complex, he said, were the problems of successfully replacing the biologic assay of epinephrine with a fully adequate physico-chemical method and improvement of the U.S.P. XIV assay of digitoxin tablets.

U.S.P. XIV items which are not to be included in U.S.P. XV total 163. While reasons for dropping these products from the forthcoming compendium varied, according to Dr. Miller, in general these reasons reflect the recent rapid strides made in medicine and pharmacy. An outstanding example is tincture of digitalis which is giving way to digitoxin which is its principal ingredient and which is more palatable for the oral treatment of cardiac ailments. Most of the U.S.P. XIV drugs not carried over to U.S.P. XV will be included in N.F.X. Total changes of drugs carried over to U.S.P. XV number 24, according to Dr. Miller. For the most part, he said, they are so trivial as to cause no difficulty to educators in pharmacy, the pharmaceutical industry, or those who index the literature on drugs.

One such change, that of epinephrine in oil injection to sterile epinephrine suspension, reflects a new distinction in designation of injectable and oral dosage forms. Suspensions, it was explained, are increasingly popular choices in presenting both old and new drugs and the risk of confusion has mounted between sterile solutions and suspensions on the one hand and sterile suspensions and those for oral use on the other hand. Beyond that, some suspensions are ready-made and others are distributed in dry form for extemporaneous preparation.

Dr. Miller explained that therefore U.S.P. XV will distinguish five categories by totals of form—injection for the clear, sterile solution, sterile; suspension for the ready-to-use injectable suspensions, sterile; for suspension for those requiring the addition of a sterile solvent, oral; suspension for the ready-to-use oral preparations and oral, and for suspension for those requiring addition of a solvent which need not be sterile.

U.S.P. XV is expected to be published in July or August, and the standards for the new articles will probably become effective between November 1 and Dec. 31.

U.S.P. XV provides monographs for two articles, anti-A and anti-B blood grouping serums, which in U.S.P. XV have been transferred to appear, along with a single monograph covering five anti-Rh typing serums and a monograph on thromboplastin, in a new section on biological reagents for clinical tests of the general tests, processes and apparatus.

U.S.P. XV

U. S. P. XV ADDITIONS

Acetrizoic acid.
Adrenal cortex injection.
Aluminum.
Aluminum chloride.
Aluminum paste.
Aminosalicylic acid.
Aminosalicylic acid tablets.
Amobarbital.
Amobarbital tablets.
Amobarbital sodium.
Amobarbital sodium capsuls.
Amobarbital sodium, sterile.
Amphetamine sulfate, dextro.
Amphetamine sulfate, dextro, tablets.
Anethole.
Antazoline hydrochloride.
Antazoline hydrochloride tablets.
Bacitracin.
Bacitracin ointment.
Benzene hexachloride, gamma.
Benzethonium chloride.
Benzethonium chloride solution.
Benzoic and salicylic acid ointment.
Bethanechol chloride.
Bethanechol chloride injection.
Bethanechol chloride tablets.
Bithionol.
Blood, citrated whole human.
Calamine lotion, phenolated.
Calcium aminosalicylate.
Calcium aminosalicylate tablets.
Calcium pantothenate.
Calcium pantothenate, racemic.
Chloramphenicol ophthalmic ointment.
Chlorcyclizine hydrochloride.
Chlorcyclizine hydrochloride tablets.
Chlorothen citrate.
Chlorothen citrate tablets.
Chlorpeniramine maleate.
Chlorpheniramine maleate tablets.
Chlortetracycline hydrochloride for injection.
Chlortetracycline hydrochloride, ophthalmic.
Cholera vaccine.
Coaltar solution.
Corticotropin injection.
Corticotropin injection, repository.
Cortisone acetate.
Cortisone acetate suspension, sterile.
Cortisone acetate ophthalmic suspension.
Cortisone acetate tablets.
Decavitamin capsuls.
Decavitamin tablets.
Dehydrocholic acid.
Dehydrocholic acid tablets.
Deslanoside.
Deslanoside injection.
Desoxycorticosterone acetate injection.
Dibucaine hydrochloride.
Dibucaine hydrochloride injection.
Dienestrol.
Dienestrol tablets.
Diethylcarbamazine citrate.
Diethylcarbamazine citrate tablets.
Dihydrostreptomycin sulfate injection.
Dimenhydrinate.
Dimenhydrinate tablets.
Dioctyl sodium sulfosuccinate.
Diphenhydramine hydrochloride elixir.
Diphtheria and tetanus toxoids, aluminum hydroxide absorbed.
Diphtheria and tetanus toxoids and pertussis vaccine combined, alum precipitated.
Diphtheria and tetanus toxoids and pertussis vaccine combined, aluminum hydroxide adsorbed.
Diphtheria toxin, diagnostic, inactivated.
Diphtheria toxoid, aluminum hydroxide adsorbed.
Doxylamine succinate.
Doxylamine succinate tablets.
Dusting powder, absorbable.
Erythromycin.
Erythromycin tablets.
Estradiol dipropionate.
Ethinyl estradiol.
Evans blue.
Evans blue injection.
Ferrous gluconate.
Ferrous gluconate tablets.
Fluorescein sodium solution.
Folic acid injection.
Formaldehyde solution.
Gauze, petrolatum.
Hexachlorophene.
Hexachlorophene liquid soap.
Hyaluronidase for injection.
Hydrocortisone.
Hydrocortisone tablets.
Hydrocortisone acetate.
Hydrocortisone acetate ointment.
Hydrocortisone acetate suspension, sterile.
Hydroxyamphetamine hydrobromide.
Insulin, isophane, injection.
Iopanoic acid.
Iopanoic acid tablets.
Iophendylate injection.
Isoflurophate.
Isoflurophate ophthalmic solution.
Isoniazid.
Isoniazid tablets.
Isoproterenol hydrochloride.
Isoproterenol hydrochloride inhalation.
Isoproterenol hydrochloride tablets.
Juniper tar.
Levarterenol bitartrate.
Levarterenol bitartrate injection.
Magnesium stearate.
Menadiol sodium diphosphate.
Mephentermine sulfate.
Mephentermine sulfate injection.
Mercaptomerin sodium, sterile.
Methacoline chloride, sterile.
Methadone hydrochloride.
Methadone hydrochloride injection.
Methadone hydrochloride tablets.
Methamphetamine hydrochloride tablets.
Methantheline bromide.
Methantheline bromide tablets.
Methapyrilene hydrochloride.
Methapyrilene hydrochloride tablets.
Methenamine mandelate.
Methenamine mandelate tablets.
Methimazole.
Methimazole tablets.
Methoxamine hydrochloride.
Methoxamine hydrochloride injection.
Methylcellulose.
Methylrosaniline chloride.
Methylrosaniline chloride solution.
Methylrosaniline chloride tablets.
Methylthiouracil.
Methylthiouracil tablets.
Morphine hydrochloride.
Nalorphine hydrochloride.
Nalorphine hydrochloride injection.
Neomycin sulfate.
Neomycin sulfate ointment.
Neomycin sulfate tablets.
Nicotinic acid injection.
Oxytetracycline.
Oxytetracycline for suspension, oral.
Oxytetracycline hydrochloride.
Oxytetracycline hydrochloride capsuls.
Oxytetracycline hydrochloride for injection.
Oxytetracycline hydrochloride, ophthalmic.
Penicillin G, benzathine.
Penicillin G benzathine, suspension, sterile.
Penicillin G, procaine and buffered crystalline penicillin G for suspension, sterile.
Penicillin G, procaine, suspension, sterile.
Penicillin G, procaine with aluminum stearate suspension, sterile.
Penicillin - dihydrostreptomycin for suspension, sterile.
Pertussis immune human serum.
Phenindamine tartrate.
Phenindamine tartrate tablets.
Phentolamine hydrochloride.
Phentolamine hydrochloride tablets.
Phentolamine methanesulfonate.
Phentolamine methanesulfonate for injection.
Phytonadione.
Plague vaccine.
Podophyllum.
Podophyllum resin.
Polymyxin B sulfate.
Polymyxin B sulfate tablets.
Polyoxyl 40 Stearate.
Potash, sulfurated.
Potassic saline injection, lactated.
Potassium chloride injection.
Potassium permanganate tablets.
Primaquine phosphate.
Primaquine phosphate tablets.
Procainamide hydrochloride.
Procainamide hydrochloride capsuls.
Procainamide hydrochloride injection.
Progesterone, suspension, sterile.
Propylhexedrine.
Propylhexedrine inhalant.
Protein hydrolysate injection.
Pyrathiazine hydrochloride.
Pyrathiazine hydrochloride tablets.
Pyridoxine hydrochloride.
Pyrilamine maleate.
Pyrilamine maleate tablets.
Salicylic acid collodion.
Secobarbital sodium.
Secobarbital sodium capsuls.
Silver nitrate, toughened.
Soap, medicinal soft, liniment.
Sodium acetrizoate injection.
Sodium aminosalicylate.
Sodium aminosalicylate tablets.
Sodium carbonate, monohydrated.
Sodium carboxymethylcellulose.
Sodium chloride tablets.
Sodium fluoride.
Sodium hydroxide.
Sodium indigotindisulfonate.

(Continued on page 550)

*How We Select Our Managers**

By Thomas J. Winn

VICE PRESIDENT, CHAS. PFIZER & CO., INC

Because it has an important bearing on why Pfizer places so much emphasis on a program of management selection, I would like to tell you a little about my Company's history. Pfizer was founded in 1849 by two aggressive young men determined that with their talent and hard work they could build a new business that could grow in a new industry. Chas. Pfizer and Chas. Ehrhart, newly arrived from Germany, began making fine chemicals for the infant pharmaceutical industry and during the Civil War, branched out into the production of ingredients for food processors as well. Later, several of these products—citric acid, tartaric acid and others—found specialized uses in many industries. One hundred years went by with very little change in the marketing pattern: Pfizer chemicals were sold in bulk quantities to other manufacturers through a sales force numbering no more than twenty men.

Then, in 1950, the Company decided to market its newly discovered antibiotic, Terramycin, under the Pfizer label. The Company had been one of the early producers of penicillin and streptomycin during the war, and in accordance with the Company's traditional policy, these important drugs were sold in bulk to pharmaceutical manufacturers or to the government. As a matter of fact, at times during World War II, Pfizer supplied as much as 80 per cent of the Allied armed forces' penicillin requirements.

Imagine, if you will, the personnel problem Pfizer faced when it made this decision. Here was a drug that was being introduced into a highly competitive market in which two other similar drugs were firmly entrenched. The competing companies had well-trained management teams and detailing and selling forces numbering in the hundreds. While it was well regarded among pharmaceutical manufacturers, Pfizer was virtually unknown to the drug wholesaler, the retail drug store, the hospital pharmacy and particularly, to the nation's 150,000 physicians, the group who would have to really know our Company and our product. Incidentally, that little prescription blank may not mean much to you, but what the doctor scribbles on it is the key to why American medicine is the best in the world.

Because our bulk chemical salesmen and management group had had little experience in the distribution of ethical drugs, we had no nucleus on which to build. We decided to start from scratch with an entirely new sales organization. On March 15, 1950, our sales staff consisted of a sales manager, a secretary, an advertising manager and eight detail men. We had one product with no sales history. Today, five years later, we find ourselves with 575 detail men, 37 district managers and five regional managers. Above all, we have an effective headquarters group which is quarterbacking the sale of several dozen products, with an annual sales volume of about 45 million dollars, in one of today's most competitive markets.

Considering the tremendous head start our competitors had built up before we entered the field, we

*Delivered before the American Management Association, March 2, 1955.

could not have become one of the leaders without a program for the selection and development of management personnel. What's more, we have had an energetic research establishment supplying us with a stream of new products, requiring competent managerial talent to insure a successful introduction and sale. In late February, for example, Pfizer Laboratories announced a whole new line of "Stress Fortified" antibiotics. This new concept, pioneered by Pfizer, brings to the physician the means of treating the stress of infection and the infection itself simultaneously. Leading antibiotics like Terramycin and Tetracyn have been combined with "stress formula" vitamin elements. This is worth mentioning, I think, since it demonstrates the dynamic nature of our business. These new "Stress Fortified" antibiotics make all other antibiotics obsolete, in a way, including our own former "plain" drugs!

My topic today concerns only Pfizer Laboratories, a complete division which evolved from the original ten men. It was split off from the rest of the Company's selling organization in 1950, leaving the bulk products under what is known today as our Chemical Sales Division. When antibiotics and vitamins began to play such an important role as growth stimulants in animal feed supplements, the Company also created a new Agricultural Sales Division in 1952. Our export business in antibiotics and other products also grew substantially, bringing with it a number of highly specialized problems. We, therefore, established several international subsidiaries which today market products all over the world and operate manufacturing or packaging plants in England, France, Belgium, Germany and Brazil. Others are planned for Argentina, Chile, Australia, the Philippines and Sweden. Rounding out the Company as it now stands, we also have the J. B. Roerig and Company Division, which was purchased in 1953. It markets a long established line of packaged vitamin specialties and has its own detail force, calling on doctors also.

Before describing some of the features of our personnel development program, let me tell you something about the people who start with us as "detail" men and who are moving through our ranks to positions of greater responsibility. The man is usually a registered pharmacist or a college graduate with pre-medical background. His number-one problem is getting in to see the doctor, a pretty busy man, more often than not, with a crowded waiting room of patients who have a certain amount of priority on the doctor's time.

Once inside the doctor's office, our man—and his counterpart, working for one of our many competitors—we estimate there are about 15,000 detail men now in the United States—has only a few moments to describe a product's advantages and call attention to the most recent clincal findings. Besides his calls on doctors, the detail man keeps close tabs on hospital pharmacies, drug wholesalers and drug stores, making sure that

(Continued on page 577)

EWING GALLOWAY PHOTO

the SUNTAN INDUSTRY

Conclusion:

Markets

by L. Stambovsky

Price of Solar Burns . . . Economic Loss. The economic aspects of millions of solar burns has been accorded but scant attention by the laity and public health agencies. The financial involvement in this ubiquitous summer malady is of considerable proportions. Authoritative figures indicate that about 60 million persons are employed in America today. Since the majority of these wage earners are in the active ages, we may safely assume that not less than 80 per cent of this number, or 48 million persons will engage in some sort of outdoor activity which will bring them within the influence of solar radiation. It is the writer's opinion, supported by some foundation, that 25 per cent of the above group who will seek isolation, or 12 million sun-worshipers, will permit irradiations far in excess of their safe tolerances. Obviously such abuse will result in 12 million sunburned integuments, six million of which will be of sufficient severity to incapacitate the victim for at least one day. Approximate figures were not available at this writing, but the writer's observations on many beaches motivate the claim that at least four million man-days are sacrificed to the sun-god. This does not take into account the millions of persons who do go to work Monday morning after a week-end of sunbathing with varying degrees of solar injury, who, to put it

COURTESY HELENA RUBINSTEIN

mildly, are in a state of disconcertation and distraction. Such a condition is hardly compatible with the concentration and acuity required in countless industrial and service operations. The loss of four million man-days of labor and the indeterminate man-hours wasted by impaired efficiency, dislocation of schedules by absentees and desynchronization of operations, together add up to a formidable sum, the deprivation of which is borne by both management and labor.

Economic Loss: Wasted Vacation Time. As has been expressed several times, a severe or even a moderate over-exposure to sunlight will positively preclude any further irradiation for at least a week or ten days and possibly longer. At least three or four days will be required for sufficient mitigation of symptoms to engage in the simplest activities without discomfort. After what seems to be a complete convalescence and full recovery (but really is not), the damaged skin no longer possesses its original tolerance to solar ultra-violet, and instead has become exceedingly and pathologically sensitive to such radiant energy. Anything but the most fleeting exposures will now be excessive. Therefore the vacationist who has over-indulged in his courtship of the sun with subsequent dermatologic havoc, will be unable to absorb his annual quota of pleasurable and revitalizing radiant energy pouring down from the heavens. After a long, dreary winter and months of anticipating sunny days ahead, to be denied the opportunity of contact with the warm, sensual solar flood is a grievous stroke of bad luck for almost everyone.

The social aspects of vacation time are to many millions immensely important. The incapacitation described will prevent participation in the usual round of summer gaiety and sports through which media social intercourse is conducted and initiated. The development of new contacts during vacations is a major pursuit. To be deprived of such advantage is to millions of persons a deplorable and serious social impairment.

Economic Loss: Treatment. Treatment of sunburn is worthy of some attention. For the mild burns, any sort of palliative will suffice—or even no treatment at all. The severe burns will demand topical therapy for the relief of pain and possibly internal medication for the management of side effects. In extreme cases, the services of a physician or hospitalization may be required. The necessary medication could very easily amount to five or more dollars, and if medical services are engaged, the total will be more than appreciable. To the limited budget, such additional expense might very well become a heavy financial burden. There is no known method of assessing the dollar value of pain and misery. That a full measure of such punishment will invariably accompany a third or fourth stage of ultra-violet dermatitis, can be depended upon.

We have itemized the multiple tolls extorted by the modern massive and wanton courtship of the sun. What has this unparalleled phenomenon offered as compensation for the price paid?

Health Dividends from Solar Irradiation. The healthful effects of sunlight are highly controversial. The technical literature is replete with pros and cons, many of which are merely opinion without substance and others with scientific support. Several years ago one of the nation's oldest weekly lay publications carried a story discussing sunlight and which contained the salient statement, quote, "the physiologic or healthful qualities of sunshine are identical with that obtained by sitting in front of a log fire." Comparable narrations emerge with the regularity and certainty of the seasons. True, the individual physiologic effects of biologic ultra-violet energy upon body mechanisms do not appear to be of deep consequence. Whatever these reactions might be and no matter how remote, the skin must obviously act as an intermediate or transmission agency, and therefore in some degree, the capacity of the individual skin in this respect, will govern the systemic effects of impinging radiant energy. Among the known and demonstrable phenomena attributable to sunlight are: blood sugar is lowered, blood calcium is increased, and blood pressure is slightly decreased. Growth is mildly influenced, the skin becomes tan, supple and shows an improved tonicity. The outstanding function is the synthesis of vitamin D in the skin when catalyzed by the anti-rachitic ultra-violet wave-lengths found in sunlight. However vitamin D may be obtained from other more certain channels, cheaply and conveniently, which of course depreciates sunlight as an exclusive source of this important vitamin.

Nevertheless contact of the solar spectrum with the skin, assuming no injury ensues therefrom, does give rise to a train of phenomena not yet amenable to definite explanation. Upon the arrival of summer, great multitudes go forth to the beaches, lakes, rivers, pools, the roof tops and even the backyards, to bask in the warm flood pouring down from the sky. In a few days these

masses will experience a feeling of refreshment and invigoration, mentally and physically. Most or all devotees will note a new buoyancy with an increased zest for all phases of living—business or pleasure. Muscular tonicity and physical endurance are substantially improved. The skin becomes bronzed and attractive, lending an atmosphere of health and vitality to both sexes. Psychologically, there is a distinct lift. Life seems good and the world a better place to be in. These are some of the returns Man instinctively knows are his in exchange for homage to the sun. Man can live without sunlight but he is better off with a reasonable amount of solar radiation. The fact that human beings, and practically all animals, intuitively or instinctively gravitate towards sunlight when it is available, is reason enough to seek insolation. Nature offers sensual rewards for the fulfillment of vital functions and sunbathing is no exception. For the gratification of hunger, we have the pleasurable taste of food and the relief of unpleasant stomach contractions; the replenishment of body fluids is followed by an indescribably pleasant reaction. There are many other parallel systems which nature has so wisely designed in order that they will not be neglected. Among such are defecation, urination, correction of temperature extremes and sex. To luxuriate in the sun's rays, for the sensuality derived thereby could be logically interpreted as a means of persuasion to strive for a place in the sun—for reasons perhaps best known to nature.

The mortality statistics in Table 8 in some inexplicable manner, seem to assign a substantial although not exclusive role to sunlight in the maintenance of health and life itself.

Table 8

Mortality Statistics 1953		(Metropolitan Life Insurance)	
January	145,000	July	120,000
February	136,000	August	116,000
March	130,000	September	118,000
April	124,000	October	120,000
May	124,000	November	123,000
June	123,000	December	133,000

Notice that the month with the highest death rate is January. By this time winter is at peak severity with weather conditions at their very worst. In February and March the days have and are becoming longer and the weather shows some degree in moderation. Perhaps some psychologic stimuli emanates from the fact that the days are appreciably longer and that spring is impending. Whatever the reason, the mortality rates for February and March show a 6 and 10 per cent drop respectively as compared with January. July, August and September reveal an average death rate of 118,000 per month, or about 18 per cent less than January. From October onward, it is evident that the death rate begins to climb slightly. During November and the subsequent winter months, the Grim Reaper exacts a full toll, until the sun again begins to shed its beneficence.

We can only speculate on the factors creditable for the mortality differentials in Table 8. At the fading of summer, sunlight has been drenching the earth for a quarter of a semester. Millions of persons have availed themselves of this celestial radiance. One of the benefits thereof seems to have been the extension of life itself. To be sure, there are other influential factors in addition to the absence of sunlight, that must be reckoned with in analyzing the higher winter mortality. Diets are better in summer than winter; temperature variations and extremes impose severe strains on all except perhaps those in top physical condition; over-heated and devitalized interiors, restricted physical activity, dampness, the dark, dreary days with their psychologic depression—all these conditions intensified by many months duration, become allies of death. During the warm months, the above circumstances are essentially altered. However the most radical and all encompassing distinction between winter and summer is the absence or presence of biologically effective sunlight—both qualitatively and quantitatively.

The writer would like to introduce, although with some apprehension, an extremely vulnerable but alluring phenomenon in which solar radiation might in some obscure means, be implicated. Statistical data in any discussion of cancer mortality is not generally regarded with favor for fear of error or distortion, which so frequently creeps into such evaluations. Nonetheless, so great are the geographical differentials for neoplastic mortality that they command reflection.

Table 9

CANCER MORTALITY DEATHS PER 100,000 (METROPOLITAN LIFE INSURANCE, LAST)

SO. ATLANTIC STATES, Av. 103	
Delaware	141
Maryland	125
District of Columbia	156
Virginia	102
West Virginia	107
North Carolina	79
South Carolina	82
Georgia	92
Florida	127
EAST SO. CENTRAL, Average 104	
Kentucky	115
Tennessee	109
Alabama	92
Mississippi	98
WEST SO. CENTRAL, Average 108	
Arkansas	100
Louisiana	116
Oklahoma	125
Texas	103
MOUNTAIN, Average 106	
Montana	134
Idaho	105
Wyoming	105
Colorado	125
New Mexico	76
Arizona	98
Utah	84
Nevada	120
PACIFIC, Average 139	
Washington	138
Oregon	134
California	140
MIDDLE ATLANTIC, Average 173	
New York	173
New Jersey	178
Pennsylvania	158
NEW ENGLAND, Average 178	
Maine	170
New Hampshire	186
Vermont	154
Rhode Island	161
Connecticut	167
Massachusetts	188
EAST NO. CENTRAL, Average 153	
Ohio	152
Indiana	143
Illinois	167
Michigan	141
Wisconsin	154
WEST NO. CENTRAL, Average 150	
Minnesota	147
Iowa	157
Missouri	160
North Dakota	113
South Dakota	131
Nebraska	149
Kansas	141

(Continued on page 571)

Packaging and Selling

Package design is more important to ethical pharmaceutical manufacturers today than it has ever been before. Since the companies do not advertise their products to the public, their reasons for paying so much attention to package design are quite different from the general manufacturer who does advertise directly to the consumer. By simplifying labels, adding color and modernizing type faces, these firms have instilled a certain elegance and professional dignity in their packages that twenty years ago did not exist. The two photographs show clearly what one pharmaceutical house, Hoffmann-La Roche, has done along this line. The picture on the right is a story of design evolution showing how slightly the original label of Syrup Thiocol Roche was changed. At the time, this revision seemed to be a most drastic one. The third bottle is not only a different shape, but the design has been modernized completely and matches all of the company's other product labels, as suggested by the above picture of Vi-Penta Drops. For a further discussion on this subject, see "Elegance in Pharmaceutical Packaging," which begins on page 485.

Announcing

a new member of the most famous vial family in the world . . .

KIMBLE OPTICLEAR SHELL VIALS

New Kimble Opticlear Shell Vials are light and sturdy. The sparkling clarity of the glass provides perfect vision of contents, permits labeling either inside or outside.

New Kimble Opticlear Shell Vials have special, resilient, plastic stoppers to keep contents fresh and clean . . . free from dust, dirt and moisture. Even after stoppers are removed and replaced repeatedly, they re-seal tightly . . . are always easy to use.

New Kimble Opticlear Shell Vials are available in 1, 2, 3, 4, 5, 7, 10, and 12-dram sizes.

...they're NEW ...they're ECONOMICAL ...they're KIMBLE

OPTICLEAR SHELL VIALS

HERE is a new vial line designed, produced—*and priced*—to make it practical and economical to use them for packaging almost any dry product, no matter what your cost requirements.

These new Kimble Opticlear Shell Vials have crystal-clear clarity, gleaming beauty, unusually high moisture-vapor resistance.

If you are using an ineffective package, you can afford to switch to these new Kimble Opticlear Shell Vials. Write now and we'll send you information, prices and free samples of the sizes you use. Kimble Glass Company, subsidiary of Owens-Illinois, Toledo 1, Ohio.

KIMBLE OPTICLEAR SHELL VIALS
AN (O) PRODUCT

OWENS-ILLINOIS
GENERAL OFFICES • TOLEDO 1, OHIO

Another example
of a Scovill
"Special Design"

A Refillable Vanity

This refillable vanity for compressed powder or rouge is another example of Scovill's outstanding ability in the cosmetic container field. The pan is held by a polyethylene ring that is permanently fixed under the reduced neck of the container shell.

The pan is easily removed by inserting a straight pin or a hairpin in the small, off-center hole in the bottom of the container.

Lid opening is made easier by new, elongated rib styling on cover and body, and there's a choice of a glass mirror and brass bezel or a less expensive, *one-piece* metal mirror!

Designed to fill a special need—the desire for fine, polished brass containers, this vanity has all the special features to make it as popular as it is practical and to *increase refill sales.*

Ask your Scovill representative to demonstrate this latest development of Scovill's Drug and Cosmetic Container Division. He'll tell you how we can help you find *just* the container you've been looking for!

Many manufacturers who have container problems call us. We feel certain that our engineers will be able to help you as they have so many others.

SCOVILL-MADE Containers

Scovill Mfg. Co., 63 Mill Street, Waterbury 20, Conn.

Elegance in Pharmaceutical Packaging

by Frank S. Child

Lederle's package design over 20-year period. Foreground, digitalis (1932); end packages show beginning of attractive design (1940); adjacent cartons indicate family identification (one is human, one is veterinary). Center package (1954) is new professional veterinary line.

Manufacturers of food products and other commodities have long been alert to the immense value of a well-designed package. Since these packages compete with each other on the same shelves in supermarkets and other self-service stores, the product with the most attractive and inviting design has a better chance of selling.

Package design is also important in marketing ethical pharmaceutical products, but not for quite the same reason. Ethical pharmaceuticals, by definition, are those products which are advertised only to the medical profession, not to the public. Many ethicals (hormones, antibiotics, biologicals) are sold on prescription only; many others (vitamins, baby formulas, various ointments, antacids) are sold over-the-counter.

Ethical prescription products are purchased on the suggestion of a doctor and may be bought only after direct specification by that doctor. Non-prescription ethical items might be suggested first by the doctor or pharmacist, but after that the patient may buy them over-the-counter by merely asking for the product he wishes. These are not advertised to the public either.

In spite of this lack of direct advertising contact with the patient, ethical drug manufacturers have devoted much time and money in recent years to the improvement of their package designs. They have added a certain degree of elegance and dignity by making the type larger and more legible, and by limiting their inscriptions on the front panel of each package to specific directions and cautions required by law. The companies make no sweeping claims, as in the days of patent medicines. In some instances, they use color to differentiate between types or families of products.

The manufacturer has done all this, even though the patient does not very often see the prescription items in their original containers. And if the druggist does happen to pass the original bottle or tube on to the customer, he usually removes the manufacturer's label and substitutes his own.

The pharmaceutical firm, in fact, uses a number of devices to help the druggist replace the company label with his own—it provides labels which have no glue, as in the case of tubes, so they can be slipped off and, among other methods, the company also perforates the labels, leaving part of them unglued, so the druggist can tear the company name off, as he would a postage stamp.

The manufacturers prepare these specia labels, permitting easy removal, in order to provide the pharmacist

Tear-off label prepared by Pfizer for convenience of druggist. Clear label of G. D. Searle & Co. Famous family design of Squibb which firm has always had.

THE *Aerosol Valve* FOR YOUR PRODUCT *by Precision*

NOW... Precision's same high quality, time-tested aerosol value is being manufactured in England, France, Germany, Italy and Brazil. The availibility of the Precision Valve throughout the world now permits your foreign sales to enjoy the same aerosol growth and success that has been experienced in this country. So wide-spread has been the public acceptance and demand for self-dispensing packages, that new type products and additional brands are added daily to the long list. Now is the time for you to investigate this market.

Why is Precision the Leader?

DESIGN . . . The wide range of Precision Valves featuring postive, fingertip operation assures a successful solution to your specific spray requirements.

CONTAINER . . . Precision has a valve engineered for the aerosol container of your choice plus the widest selection of plastic colors to enhance the beauty of your package.

PRODUCT... Plastic construction eliminates corrosion enabling Precision Valves to perform efficiently for all products whether foam, residual or true aerosol.

FILLING METHOD . . . All types of aerosol products with Precision Valves, are being filled successfully by pressure as well as refrigeration at the lowest possible cost.

QUALITY . . . Precision's basic research, production skill, development techniques, 100% inspection of every valve *plus* the background of over 150,000,000 time-tested valves is your assurance of quality.

ECONOMY . . . The highest plant production efficiency, as well as the lowest rejection rates for filled containers, assures maximum economy with Precision Valves.

AVAILABILITY . . . The world's largest aerosol valve manufacturing facilities, are combined with the lastest production methods and techniques, to give prompt production and delivery schedules.

● *We invite your inquiry to enable our staff of aerosol valve technicians to work cooperatively in satisfying your valve requirements.*

PRECISION

Precision Valve Corporation

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with a more professional standing in the community he serves. He is well-trained and is therefore able to suggest non-prescription items to his customers when they ask him for any of various remedies. He is also able to check doctors' prescriptions for accuracy if there is any doubt. In fact, once a pharmacist has sold a non-prescription product to a customer, that person often returns to buy more of the same preparation—and the time eventually arrives when that customer identifies the item by name and specifies the manufacturer. This is the ultimate goal of the pharmaceutical companies, as far as ethical non-prescription products are concerned, and this is perhaps the most important reason behind the newly designed ethical packages. Customer identification.

The pharmaceutical people often go one step further by preparing ethical preparations in small-size containers which match prescription sizes—like a dozen capsules instead of restricting their packaging to bottles of 100 or 1000 capsules.

On occasion, the druggist will sell the 12-capsule bottle to the patient, and he may even leave the manufacturer's label on it. Moreover, the manufacturer usually identifies its capsules, tablets and pills either by embossed or engraved initials, by certain shapes (triangular, oblong, oval) or by distinctive colors, or combinations of all of these.

Another very important approach is in sampling. The ethical firms are constantly sending the doctors kits or unit containers of new drugs and ethical preparations. They are exact replicas of the full-scale packages in every detail, including design.

By using these samples for members of his family, or by distributing them to his patients, the doctor is able to test products of the various firms before he prescribes them on a larger scale. This is another way the companies promote the identification of their products by the public—their ultimate customers. When he sees a well-designed package, neat in every detail and very professional looking, the patient automatically begins to think well of the product before he tries it. If it cures his ailment quickly, he speaks high praises for the medicine—and indirectly for the company. More institutional advertising.

Lederle Laboratories' Century Pak method of packaging capsules in pre-counted lots of 100 each.

Because there is stiff competition in the pharmaceutical field, the manufacturers are finding it necessary to present their products in dignified, professional-appearing packages which will suggest to the patient, when he sees them, that the companies are equally as meticulous and they prepare their drugs under sterile, spotlessly clean conditions.

To give a few examples in modern package designs in the pharmaceutical industry, here is the way a number of companies are handling the job.

Hoffmann-La Roche has established a basic design for all of its newer products. As the old, out-dated preparations fall into disuse, the company drops the equally obsolete labels. The company is now using from 15 to 20 different color combinations for approximately 35 products for both its prescription and non-prescription ethical products. There is a solid background color on the upper portion of the label and a different solid background color on the lower portion, the two being separated from each other by a horizontal band of a third color. Gantrisin Tablets, for example, have multi-colored label, white on top with black lettering of the name. Blue type describes the number of tablets and also the company trade-mark, "Roche."

A gold horizontal band cuts the label in two. Below the band the label is light blue with black lettering. In this spot is included a description of the product and the required notation, "Caution: Federal law prohibits dispensing without prescription."

(Continued on page 566)

Simple, plain label of Burroughs Wellcome & Co. Standard appearance of Lilly products. Improved design of Smith, Kline & French labels, representing family.

HOW
Gair Package Analysis works for manufacturers

You, whose products already wear Gair cartons to market, may have noticed that our man asks more questions than the average.

What he's doing—and this is for you who haven't yet dealt with us, too—is gathering facts for a Gair Package Analysis.

Here's what Gair's Package Analysis Service does for you.

WHAT IS IT?

Gair Package Analysis is a service designed to clarify the basic requirements of a successful carton for your product. It is performed for qualified manufacturers without obligation.

WHAT DOES IT DO?

It uncovers the specific problems involved in packaging your product—current marketing situation, physical characteristics of your product, your packaging facilities, and your shipping and merchandising requirements.

HOW DOES IT WORK?

We begin with specific product facts supplied by your own staff, checking these out against the broad experience of recognized marketing and merchandising experts. Our findings are then studied by Gair creative engineers. They draw up recommendations for the most practical carton material, structural and graphic design, printing and production technique for your specific packaging situation.

RESULT

A carton that sells *and* protects your product, that fits both your packaging machinery and your pocketbook. Best of all you haven't wasted time or money in false starts on wrong tracks.

How can you take advantage of this service? Check your Gair representative today. He'll be glad to make a qualifying call at your convenience.

FC.5.1

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Creative Engineering in Packaging

FOLDING CARTONS
SHIPPING CONTAINERS · PAPERBOARD

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Prize-winning Package Designs

Ciba Pharmaceutical Products, Inc.
Made by Wilkata Folding Box Co.

Dorothy Gray, Ltd.
Made by Robert Gair Co.

Of "America's 100 Best Folding Cartons" selected in the 1955 Folding Carton Competition 15 were chosen from the drug and cosmetic fields. The contest took place during the annual meeting of the Folding Paper Box Association of America at the Drake Hotel, Chicago, from March 28 to 30.

These 100 winners were in turn picked from a total of 6,782 entries, the largest number of entrants ever to have submitted cartons in the competition.

Winners in the pharmaceutical and cosmetic fields are especially interesting because of the trim appearance and elegance displayed by the individual displays.

Vitaminerals, Inc., which won a Merit Award for Superiority of Construction for its six-sided Family Pak dispensing carton (Robert Gair Co.), has come up with a package that holds a supply of vitamin tablets in a continuous roll of heat-sealed cellophane units. These transparent packs of vitamins can be torn off in daily portions, thereby promoting the sale of vitamin products to entire families as well as to individuals.

Ciba Pharmaceutical Products, Inc. won a First Award for Multi-Color Letterpress Printing on its Privine Economy-Pack display unit (by the Wilkata Folding Box Co.). Designed for the purpose of commanding valuable counter space in drug and related stores, this carton is unique in its design of red-nosed caricatures representing men and women in various occupations. A caption on the carton points out that the packaged nose drops and nebulizers may be used "wherever you are."

Bromo Seltzer's new package design (by the Guilford Folding Box Co.) is the first in 68 years. It retains the familiar blue color for consumer recognition and also features three different horizontal and vertical display panels for easy self-selection in retail outlets.

Interesting features of the cosmetic entries include the unusual construction and colorful design of the Prince Matchabelli Cologne Cruise package (Warner Brothers Co.). Actually four cartons in one, and having the appearance of a trunk, the display holds four containers of various cologne scents.

Helena Rubinstein's family of Noa Noa Cologne cartons (Lord Baltimore Press) suggests a "South Seas" atmosphere through the use of a striking design derived from a Tahitian fabric.

Dorothy Gray's counter display for Gray Lipstick and Foundation Cream makes self-service at crowded

There's a PLAX Package that will SAVE you hundreds of thousands of dollars in shipping costs

Feather lightness of Plax bottles reduces your tare weight so substantially, you can save hundreds of thousands of dollars in shipping costs.

You get other valuable bonuses, too. Rainbow-choice of colors . . . an almost unlimited selection of shapes and surface finishes . . . the dispensing method best suited to your product, whether it's a spray, drop-by-drop, controlled pouring or direct application. Consult Plax for the best in convenience packaging.

PLAX CORPORATION

P. O. BOX 1019, HARTFORD, CONNECTICUT

IN CANADA: Plax Canada, Ltd., Montreal and Toronto

PLAX

In plastic bottle packaging, only Plax offers continuous research, complete design service, and long experience.

cosmetic counters easier. Twenty-four lipsticks are all equally visible in upright positions. The drawer at the bottom contains 12 bottles of foundation cream.

The Mennen Co. received a Merit Award in Cosmetics for its Mennen Foam Shave (Nevins Co.) which is displayed in a carrier containing two cans. A special locking device prevents them from shaking out. The purpose of the arrangement is to stimulate impulse sales of the product as a gift item.

The winners in the drug and cosmetic fields are:

Technical Superiority of Printing. FIRST AWARD: Privine Economy-Pack, Ciba Pharmaceutical Products, Inc. (Wilkata Folding Box Co.). MERIT AWARDS: Pin-It, Procter & Gamble Co. (Richardson Taylor-Globe Corp.); Prell Shampoo, Procter & Gamble Co. (Robert Gair Co.); Noa Noa Cologne, Helena Rubinstein, Inc. (Lord Baltimore Press); Old Spice Cosmetics Family, Shulton, Inc. (Empire Box Corp.).

Superiority of Construction. MERIT AWARDS: Family Pak Vitamin Tablet Dispenser, Vitaminerals, Inc. (Robert Gair Co); Prince Matchabelli Cologne Cruise Package (Warner Brothers Co.); Dr. West's Denture Brushes, Weco Products Co. (Gardner Board and Carton Co.).

General Superiority According to End Use. MEDICINAL PRODUCTS, FIRST AWARD: Privine Nose Drops, Ciba Pharmaceutical Products, Inc., (Wilkata Folding Box Co.); MERIT AWARD: Galyon Skin Retractor, Galyon Instrument Co. (Container Corp. of America); Bromo-Seltzer, Emerson Drug Co. (Guilford Folding Box Co.).

COSMETICS, FIRST AWARD: Old Spice Cosmetics Family, Shulton, Inc. (Empire Box Corp.). MERIT AWARD: Noa Noa Cologne, Helena Rubinstein, Inc. (Lord Baltimore Press); Mennen Foam Shave, the Mennen Co. (Nevins Co.); Prell Shampoo, Procter & Gamble Co. (Richardson Taylor-Globe Corp.).

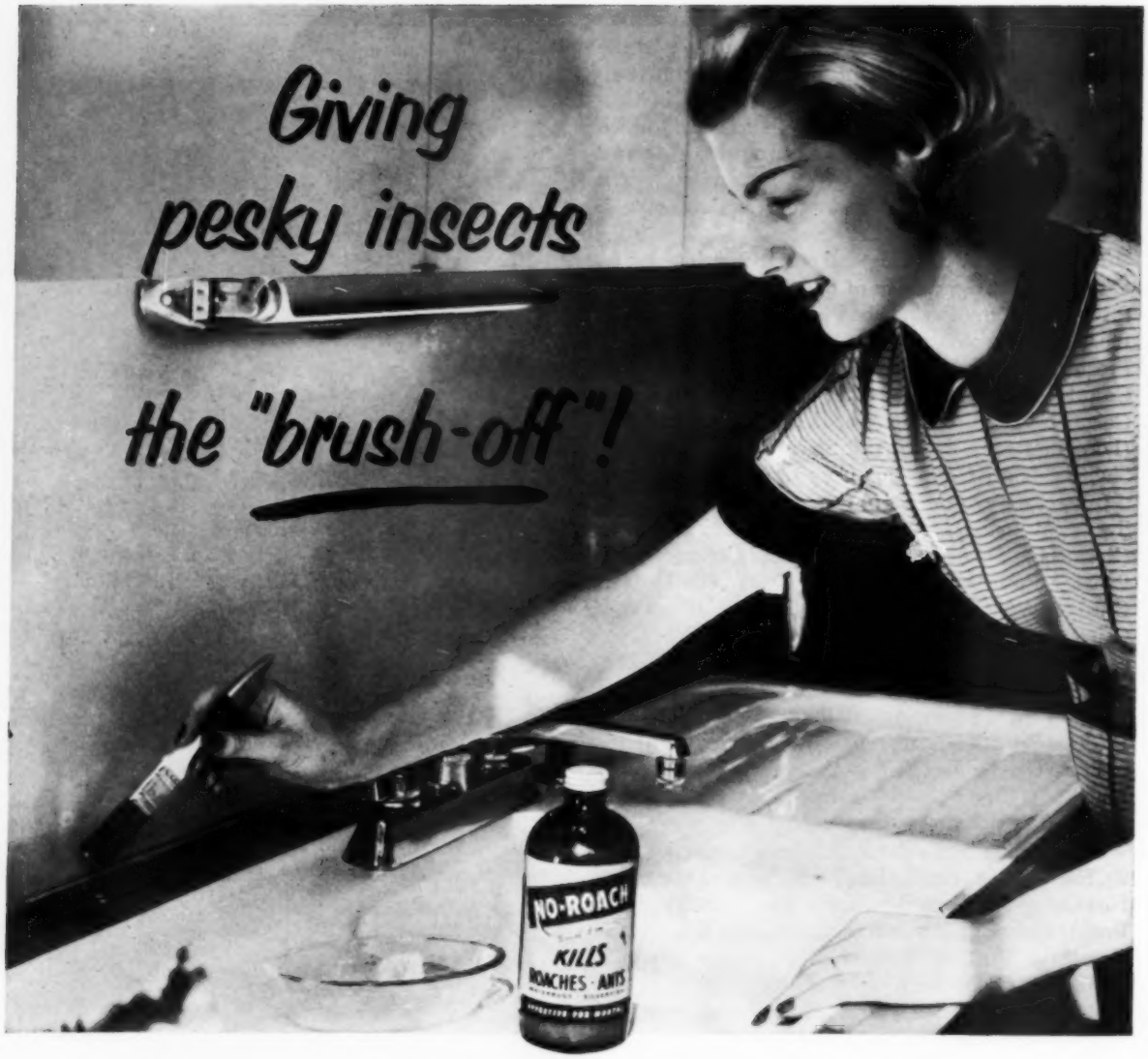
Perhaps the most important feature of this competition is that it points up the need for the individual carton to speak up for itself. The more attractively a package is designed, the better it will sell its contents on the retail shelf.

Prince Matchabelli
Made by Warner Brothers Co.

The Mennen Co.
Made by Nevins Co.

Helena Rubinstein
Made by Lord Baltimore Press

Vitaminerals, Inc.
Made by Robert Gair Co.

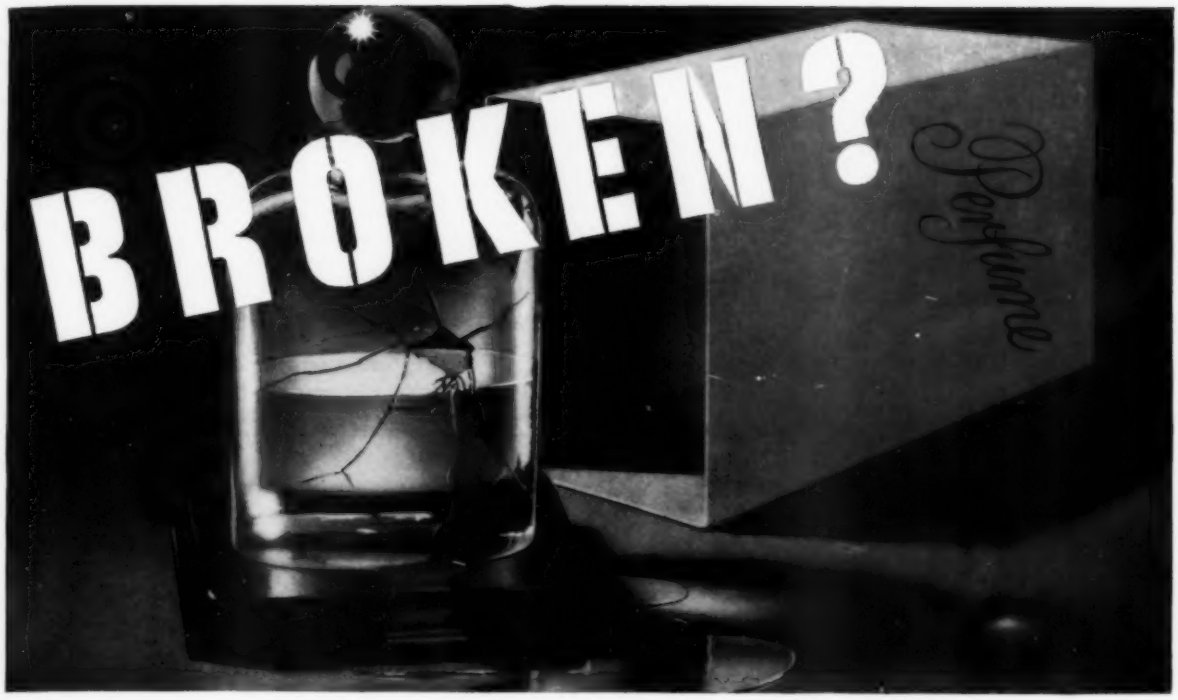


Johnston's NO-ROACH is well known to housewives for its effectiveness in killing roaches, ants, silverfish and other insects. This colorless, odorless liquid is easily applied with an ordinary paint brush, and one application controls pests for months.

Like many other fine glass packed products, NO-ROACH is sealed with the Crown Screw Cap. The maker, the Gaston Johnston Corporation of Long Island City, N. Y., has taken full advantage of Crown's excellent lithographing facilities. The cap is decorated to harmonize with the label on the bottle. And as a customer convenience feature, they have lithographed the price right on the closure. Find out how Crown's Customer Design Service and metal lithography can help put more sales appeal in your package. Crown Cork & Seal Company, Inc., *Closure Sales,* Baltimore 3, Md. *World's Largest Maker of Metal Closures.*

Approved by millions of housewives

CROWN CLOSURES



Not when you use KIMPAK !

New KIMPAK 301 is the practical solution to safe packaging of fragile cosmetic containers. With the ability to absorb liquids up to 16 times its own weight in a matter of seconds, new KIMPAK 301 more than meets Parcel Post regulations. New KIMPAK 301's shock-absorbing characteristic provides positive cushioning protection against these major causes of breakage:

1. Shock and rough handling. KIMPAK is a soft, cushioning material that forms an effective shock absorbent barrier against these shipping hazards. It molds itself readily to irregularly shaped items and eliminates dangerous high and low spots.

2. Movement within the package. KIMPAK is absolutely uniform in thickness from end to end and edge to edge. This permits a tight, snug pack with the fragile containers nestled into the KIMPAK to prevent movement.

Breakage is but *one* of the problems encountered in cosmetic packaging. Specify KIMPAK (either decorative white 201 or the new low-cost utility 301) and these problems are solved. For more details concerning KIMPAK, mail coupon below.

SPECIFY KIMPAK TO SOLVE THESE INTERIOR PACKAGING PROBLEMS:

- Leakage
- Breakage
- Conformability
- Ease of handling
- Appearance
- Cleanliness

Whatever your protective interior packaging requirements, there is a Kimpak specification that does the job... better!

Kimberly-Clark
INTERIOR PACKAGING
KIMPAK

KIMBERLY-CLARK CORPORATION
Neenah, Wisconsin

We would like to learn how KIMPAK can provide better protection for our products. Please send complete information.

Name .....

Firm .....

Street Address .....

City ..... *Zone* ..... *State* .....

control's the thing...

WITH ANCHOR HOCKING, TOO

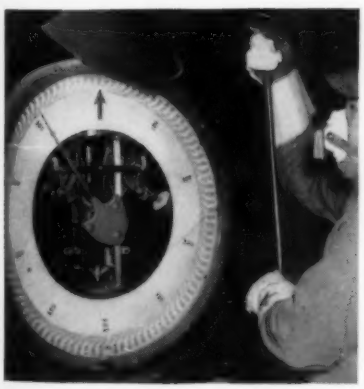
Anchorglass® Containers are uniformly strong, tough, dependable—high in chemical durability, accurate in dimensions, capacity and finish . . . a result of exacting quality controls.

50th Anniversary

The archer must have a steady hand, a sharp eye, to give him the perfect *control* that makes him a master. And *control* is important, too, in the manufacture of Anchor Hocking quality products.

From the selection of all raw materials to the final production line inspection, Anchor Hocking employs literally hundreds of exacting *controls,* tests and checks involving many scientific testing devices. Although each factory maintains a laboratory of its own for quality control purposes, central laboratories at Lancaster, Ohio, serve as a control center for all—veritable watchdogs that make certain Anchor Hocking products comply with their rigid specifications.

Eleven strategically located factories and sales-service representatives in 25 principal cities in the U. S. and Canada await the opportunity to serve you with controlled high quality Anchor Hocking products.



The exact quantity of each material needed for the glass batch is weighed with unerring accuracy on scales that are checked daily.

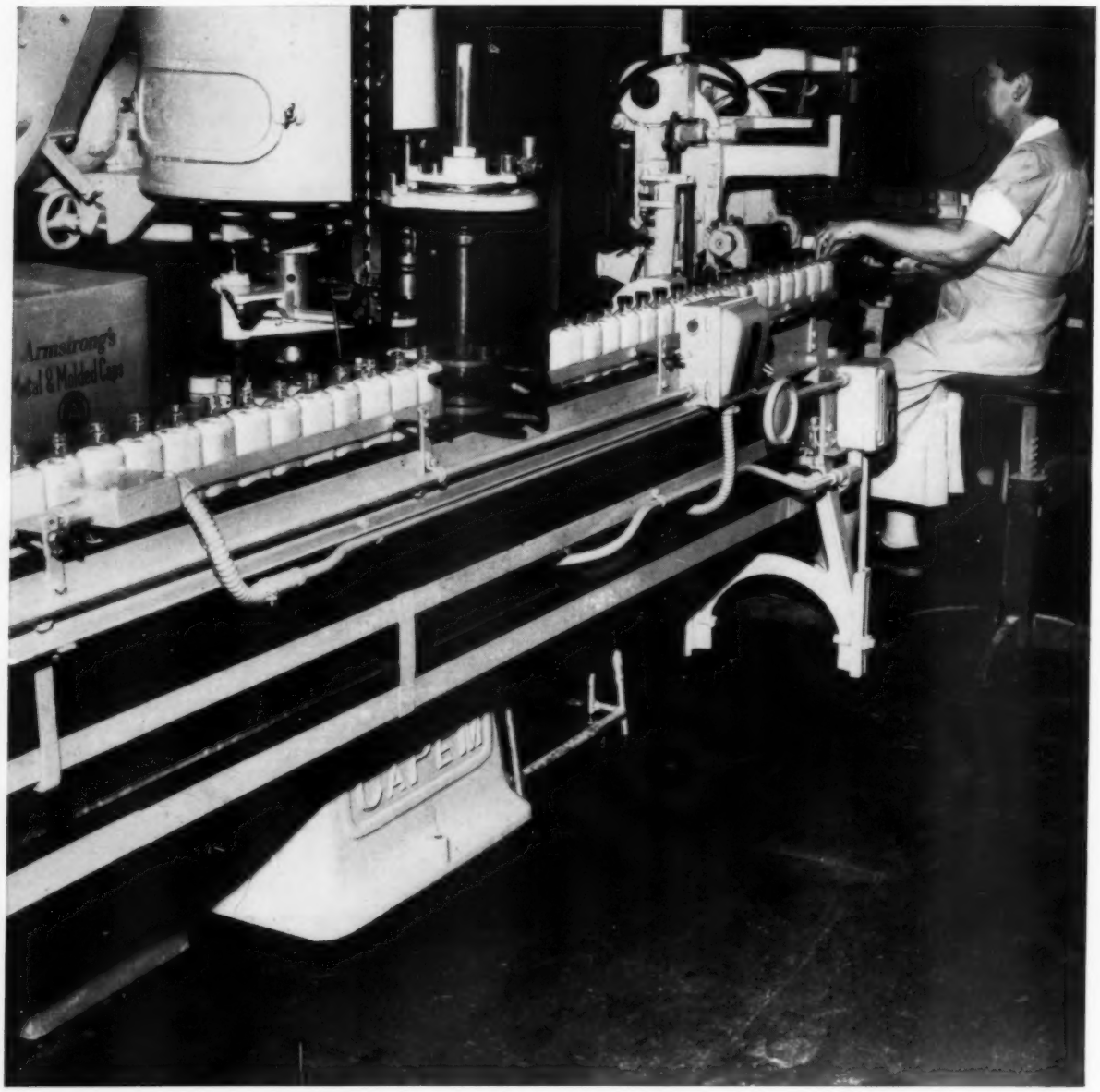
Gaging of finishes is but one of many detailed checks that are made regularly to maintain accuracy in Anchorglass Containers.

The color of ware is maintained at uniform standards by precise measurements with the Spectrophotometer in Anchor Hocking factory laboratories.

ANCHOR HOCKING GLASS CORPORATION

GENERAL OFFICES — LANCASTER, OHIO

ANCHORGLASS CONTAINERS, ANCHOR METAL AND PLASTIC CLOSURES, ANCHOR SEALING MACHINES, CARTONS AND PACKAGE ENGINEERING SERVICE... FOR PACKERS, MANUFACTURERS, BOTTLERS OF FOODS, DRUGS, HOUSEHOLD CHEMICALS, COSMETICS, TOILETRIES, BEVERAGES, BEERS, ALES, WINES AND LIQUORS.



LOOK AT THE FLOOR...

you can see why this cap cuts downtime

Test run Armstrong Hi-Tork® Caps, then look at your floor. You've never seen it so clean after operating. The collection of broken caps commonly found around high-speed lines just isn't there.

The reason is that Hi-Torks are extra strong. Each part—dome, thread, and skirt—is designed to take its exact share of torque and impact. So you get less breakage and downtime—even at higher line speeds.

Let us help you set up this test. For details, call your nearest Armstrong office or write Armstrong Cork Company, Glass and Closure Division, 5304 Chambers Street, Lancaster, Pennsylvania.

Armstrong "HI-TORK" MOLDED CAPS

Packaging and Selling

COSMETICS AND THE DRUG WHOLESALER

Raymond Spector, who is the somewhat spectacular Chairman of the Board, of Hazel Bishop, Inc., addressed the Federal Wholesale Druggists Association at their recent Mid-year meeting. What Mr. Spector told these expectant wholesalers strikes us as quite a choice assortment of fact and fancy.

For instance, Mr. Spector was on very firm ground when he suggested to wholesalers that never in the whole history of the cosmetic industry have so many cosmetic manufacturers in so short a time needed the wholesaler so badly.

In this hectic and feverish period in which the cosmetic industry finds itself, a substantial number of cosmetic manufacturers are leaving the old home town, so to speak, where they were big ducks in a small puddle and where they knew every street and alley, for strange foreign pastures where some of them are beginning to flounder.

Some manufacturers who are leaving class or selected distribution and who are plunging headlong into mass distribution are finding that they are utterly incapable of understanding many of the problems of the retailers in mass distribution. They are finding that with their limited line of products and limited volume, they cannot possibly support a sales force to contact all these dealers. Once caught in a trap by this mass distribution, they desperately need the facilities and the competent experience of the wholesaler to handle these 50,000 to 140,000 stores in the mass market.

It is with some of the specific statements in Mr. Spector's talk that we feel qualified to take issue.

Mr. Spector says, "In the first place, let me point out that the cosmetic industry represents a billion dollar volume. Yes—over one billion, one hundred million dollars of cosmetics are sold in this country annually—as compared to over 750 million dollars in ethical pharmaceuticals." Mr. Spector should have told the wholesalers that this billion dollars is at retail, not wholesale prices. He might have added that of this one billion dollars, a little over one half came from sales of such staple toiletries as tooth paste and shaving cream, which have long been within the province of the wholesale druggist. Taxable cosmetics, into which classification Mr. Spector's products fall, are a little less than 500 million dollars, again at prices over the retail counter.

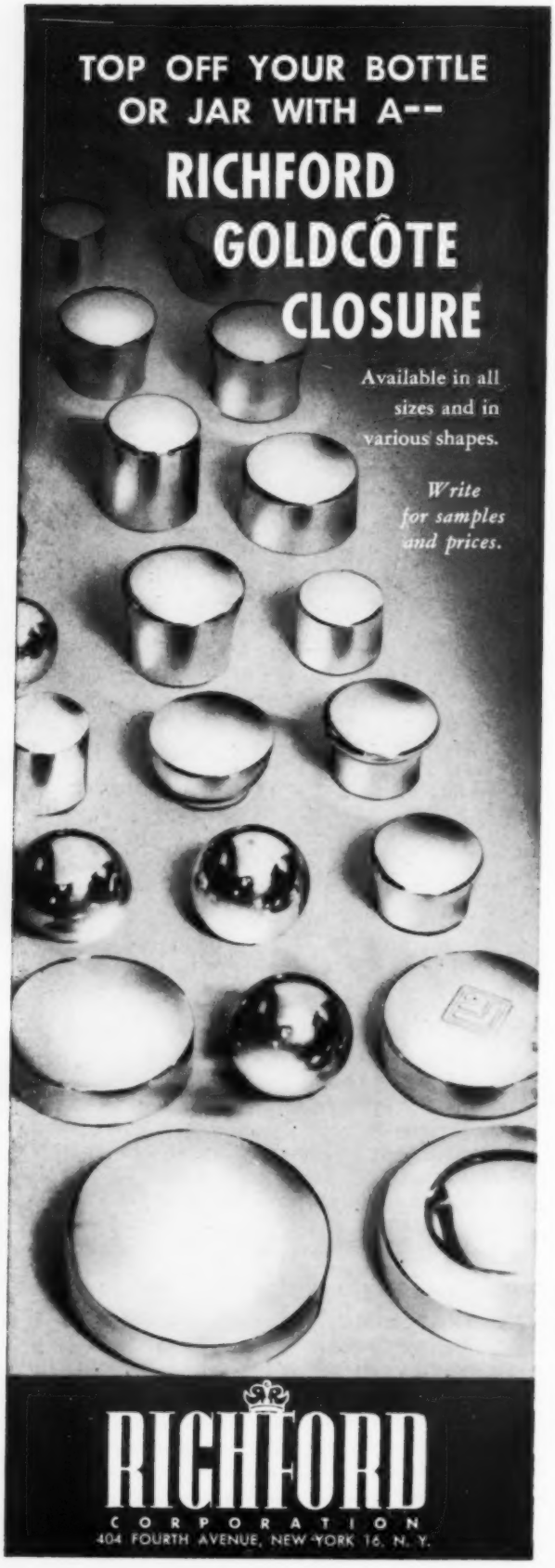
Still further picking this figure to pieces, we ought in all fairness to add that quite a bit of this cosmetic volume goes into variety stores, department stores, the major drug chain stores, grocery super-markets, beauty parlors, barber supply and notably, house-to-house cosmetics. Certainly not over one hundred million dollars at retail prices finds its way into stores which come within the scope of the wholesale druggist.

Again quoting Mr. Spector: "In the cosmetic field, no company selling through stores does over three per cent of cosmetic volume." Again, wrong. There are at least five cosmetic companies, each selling all of their volume through retail stores, each of which do considerably more than three per cent of the cosmetic volume, if we reduce this volume to its true figure. Mr. Spector adds: "It is inevitable that one or two or three companies will capture 20 per cent, 25 per cent or 30 per cent of the volume in their respective fields." We don't want to compete in prophecy with Mr. Spector, so our only answer to this comment is, "Wanta Bet."

Another statement "I hardly need to point out that today the biggest single development in the cosmetic field is the increased volume done by house-to-house companies." This is true. The real dynamics in the cosmetic business in the last few years have certainly been in this branch of the industry, due largely to the fantastic success of the leading company in this field. Mr. Spector says further, "Today, over 20 per cent of the cosmetic business in the United States is done house-to-house." We think Mr. Spector would be a little bit nearer the mark if he had put this a few points below 15 per cent.

Mr. Spector then proceeded in his speech to give some advice to his wholesale audience, putting himself, at the beginning of this advice, in the position of a wholesaler. For instance, he states, "I would not put on any sales drives for cosmetics manufacturers who generally sold to retailers direct; and thus diluted my market." We cannot help but feel that Mr. Spector has maneuvered himself into a position with this statement which he would rather not continue. For instance, Hazel Bishop has attained the all-time peak of market dilution of any company in the entire history of the cosmetic industry as announced in their own public statement that their principle product is sold in 140,000 retail stores. Again, what would he advise as a policy for wholesale druggists for a manufacturer who is aggressively opening up so many grocery super markets that he must necessarily bring into the cosmetic industry, in a substantial and forceful way, the grocery wholesaler.

As we said at the beginning of this article, there is a great deal of fundamental truth in the fact that the wholesale druggist will undoubtedly be called upon to perform a substantially more important part in the cosmetic industry in the future than he has in the past. The facts are on the record that America is becoming an enormous mass market in cosmetic consumption and there is hardly any cosmetic manufacturer who can sustain the heavy national sales volume to support his own sales force in a mass market operation.



YOUR BOTTLES LOOK BETTER . . .
YOUR PRODUCTS SELL BETTER . . .

when topped with a gleaming

GOLDCÔTE CLOSURE

by RICHFORD

Day to day sales figures from all over the country show clearly that Miss and Mrs. America are buying most things on impulse, are selecting products that appeal first to their sense of beauty.

If you want your packaged product to stand out, be it a cosmetic, fine food, or pharmaceutical, you cannot make a better choice for a closure than one of the many shapes and sizes of RICHFORD GOLDCOTE.

Then you can be sure that the question,

"WHICH BRAND WILL SHE CHOOSE?"

will be answered in your favor.

Write today for samples and prices.

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404 FOURTH AVENUE, NEW YORK 16, N. Y.

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BUCKINGHAM ASSOCIATES
7634 Rogers Avenue
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CONSOLIDATED BOTTLE CO.
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Toronto, Canada

Offices Also in Principal Foreign Cities

It would be well though for the individual wholesaler to give a little time to thinking out clearly just what kind of a cosmetic manufacturer would be suitable for his type of operation before plunging into intimate relations with too many manufacturers in this industry.

For instance, a famous chain store executive who passed away a few years ago once made a statement to a leading cosmetic manufacturer which always seemed to us to be a penetrating analysis of this very situation. This chain store executive, in explaining why he did not see a way to handle a promotion of this cosmetic manufacturer, stated that his chain could not afford to carry a promotion for any manufacturer whose national sales volume fell below ten million dollars a year and whose national advertising expenditure fell below one million dollars a year. This retail executive had done some very simple arithmetic, reducing the sales volume and the advertising expenditure to actual sales per store and sales influence in his chain and community. He discovered that the effort was not worth his time, with sales and advertising below this figure.

In a similar way, in a speech at a national sales convention of a leading manufacturer, which we think was Coty, a top executive of McKesson and Robbins did some similar arithmetic. Using the time studies of a wholesale drug salesman, as shown by the study made public some years ago by the Bureau of Business Research, Ohio State University, "Increasing Wholesale Drug Salesmen Effectiveness," it was found that the more efficient drug salesmen spent less than three hours a day in actual selling time in a retail store. This executive then translated these figures into what was needed in actual sales volume in a promotion, when a manufacturer asks the McKesson sales organization for only two or three minutes of their salesmen's time. This figure as we recall it was thoroughly startling in its large size.

Now, supposing we take 10 million dollar volume for a cosmetic specialty which is reaching the full limits of mass distribution in the cosmetic industry. Here is just about how we think this distribution would subdivide:

Department stores	15 per cent
Independent drug stores	25 per cent
Chain drug stores	20 per cent
Variety stores	10 per cent
Super markets	30 per cent

Anyone with a pencil and a knowledge of simple arithmetic can arrive at some interesting conclusions from these figures. We will allow a tolerance of 10 to 15 per cent in the variation of sales between these classifications of stores but we are certain that these percentages are not subject to a much bigger variation.

A ten million dollar national retail sales volume means that for all of the 55,000 independent drug stores which lie within the scope of the drug wholesalers there is a maximum potential volume at retail sales prices of two million dollars. Using this figure, the reader can easily figure out for himself the average sales volume per drug store per year. With a little closer figuring any one wholesaler can then arrive at a fair estimate of what his share in this two million dollars of annual sales should be on the basis, first of wholesale prices, and secondly on the basis of the number of retail drug store accounts on his books.

The wholesaler may want to go a little further. He can then consider that his salesmen are costing him for salary and expenses somewhere around $150.00 a week each and that less than one third of the salesman's time is spent on actual selling. This brings the amount of minutes that a wholesale salesman can spend on a promotion for this volume of business down to a very few limited minutes a very few times a year.

When we consider that there are very few cosmetic manufacturers who are in a position to show the wholesaler anywheres near as large a volume as two million dollars a year at retail prices it is easy to see that the wholesaler's opportunity for real picking in this branch of the industry is somewhat limited.

Clearer Vials

Lightweight shell vials in the Opticlear line offering perfect vision of contents are now being manufactured by Kimble Glass Company, subsidiary of Owens-Illinois.

These new vials, available in eight sizes from one dram to 12 drams, are designed and priced for mass packaging. Opticlear shell vials are crystal-clear and show color, size, shape and quality of contents at a glance.

Packaging Week

Maybe packaging will have its week. A New Jersey Congressman has just offered a resolution authorizing the President to establish a "National Better Material Handling and Packaging Week." The resolution seeks to give recognition to "the significant contributions made to the American way of life by the tremendous improvements in packaging methods."

We think both of these particular fields have made momentous contributions to better living, better distribution and a more efficient economy. We do think however that material handling is moving in one direction, that is in greatly increased efficiency in factories, in retail stores and in distribution generally and that packaging is moving in a different direction in accomplishing some of these same objectives but a great many others that bear no relation to material handling. In other words, these two great new developments in the American economy are partners in some phases of increasing distribution economies but that they should be kept separate as different phases of the

business operation. Nevertheless, as a starter, we would like to see this week accepted by the President and used by industry as an effective way to educate the public as to what just has been happening in these two fields.

Retail Medical Department

According to a report in the newspaper, "Women's Wear Daily" retail stores medical departments are expanding and doing a very good job. Leonard Nodel, Assistant Director of Abraham & Straus, Brooklyn, lauded well run retail store medical departments for their contribution to management. In a panel discussion, it was brought out that nearly 90 per cent of all medical cases are now treated in the store, where once only 25 per cent were treated on the spot.

Ninety-five per cent of New York stores now demand replacement medical examinations. Three years ago, the total was 30 per cent.

Retailing probably holds a potential of over 200,000 medical departments. This seems to us a market potential worth serious study.

Diamond Promotion

The recent production of synthetic diamonds by General Electric glamorizes one of the chief characteristics of this dynamic era in America—that is, industrial research.

It would not strike us as too strange if General Electric should now take the next step, in accordance with everything that is based on American business traditions, and put on the market a diamond studded toaster as a promotion.

Sales Come First

A speaker at the American Management Association believes that American business today should be run by salesmen. This speaker asserted:

> "The time is here when the manufacturing department produces what the sales department sells rather than the sales department selling what the manufacturing department produces."

Modern Market

Here's a description of retailing.

> "Husbands, sons or servants do the shopping, an extremely strenuous job. Buying is done in open air auction bazaars once a week. These are extremely crowded; jostling by eager, bargain-seeking shoppers is severe. The general market place is a noisy, confused jumble of piles of goods, pushing shoppers and smelly, milling herds of animals."

No, this isn't a Farmers' Market—it is a description of a food market in Saudi Arabia by McCall's Magazine.

Wasted Effort

"Every day in every department store across the country, fabulous quantities of manufacturer-prepared advertising aids are dumped in the wastepaper basket." This is according to Howard P. Abrahams, Manager of the National Retail Drygoods Association's Sales Promotion Division and Advertising group. How true this is with nearly every branch of the retail trade! An appalling amount of all point-of-sale material leaves the manufacturer's shipping point with a life expectancy that is just about zero.

This does not mean that the point-of-sale people, as well as manufacturers and some forward-thinking retailers, are not working hard to solve this problem. Nevertheless, too many millions of dollars are being lost each year. Certainly this is a field for more progressive, intensive research.

Can Advertising Foster Monopoly?

The Senate-House Economic Committee is now in the process of exploring monopoly in America. It is highly possible that some new conceptions on monopoly in business may come out of this hearing. Certainly there is a growing public uneasiness over the rapid multiplication of mergers, many of which seem to have no justification beyond the ambitious piling up of economic power.

Recently, in a hearing a former Vice-president of General Electric stated that giant corporations operate today "like dictatorships and are creating a kind of 'feudalism' in America."

Another witness stated that the Commerce Department's Business Advisory Committee is promoting the idea that competition today is becoming merely a choice between aluminum or copper, cigarettes or sweets.

The Committee has not yet arrived at a consideration of advertising as a factor in monopoly. It is highly possible that this may enter into the hearing because with the vastly increasing facilities for modern communication, it is becoming apparent that an overwhelming weight in dollars could crush many small competitors.

We quoted in this department some time ago a statement by the Chairman of the Board of a leading soap manufacturer that they would not put a product on the market unless it justified an initial expenditure of five million dollars in advertising.

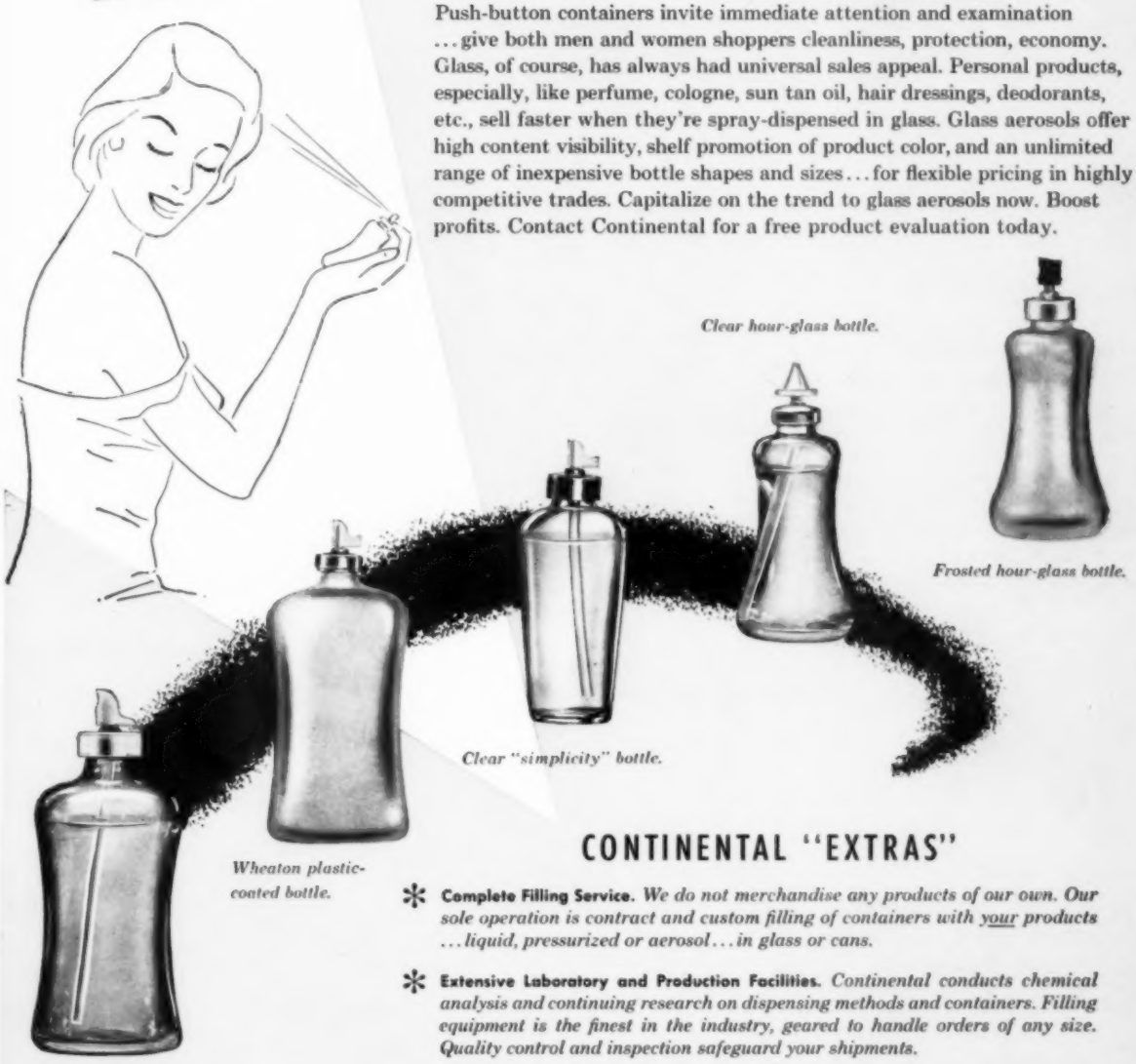
It was reported of the leading competitor of this soap company that two years ago, in launching a new toilet preparation, that they invested over ten million dollars in advertising within less than a year. An official of this same company is supposed to have remarked recently that they would not even look at a new product unless they could justify an initial advertising appropriation for its introduction of three million dollars.

According to the Federal Trade Commission, in its recent decision regarding Revlon's exclusive beauty-supply jobber arrangement, it would appear that advertising is acquiring some elements of a monopoly in the minds of the Federal Trade Commission.

It will be remembered that we recently discussed this Revlon case and its implications for small business. Revlon cited as an example of competition denying a monopoly the recent rise of Hazel Bishop to a dominant position in the two major items comprising Revlon's business, that is lipsticks and nail enamel. We quote again the statement of Commissioner Gwynne "The Clayton Act is concerned with helping small business. The fact that a company with a large advertising budget and an equally strong dealer organization is not foreclosed from the market does not remove the fact that

HOW *glass aerosol* CAN BOOST THE *sales appeal* OF *your products*

Package for spray-dispensing... and do it in glass. This combination gets results! Push-button containers invite immediate attention and examination ... give both men and women shoppers cleanliness, protection, economy. Glass, of course, has always had universal sales appeal. Personal products, especially, like perfume, cologne, sun tan oil, hair dressings, deodorants, etc., sell faster when they're spray-dispensed in glass. Glass aerosols offer high content visibility, shelf promotion of product color, and an unlimited range of inexpensive bottle shapes and sizes... for flexible pricing in highly competitive trades. Capitalize on the trend to glass aerosols now. Boost profits. Contact Continental for a free product evaluation today.



Clear hour-glass bottle.

Frosted hour-glass bottle.

Clear "simplicity" bottle.

Wheaton plastic-coated bottle.

Wheaton clear oval bottle.

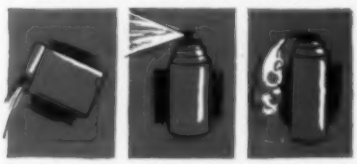
CONTINENTAL "EXTRAS"

✻ **Complete Filling Service.** *We do not merchandise any products of our own. Our sole operation is contract and custom filling of containers with your products ... liquid, pressurized or aerosol ... in glass or cans.*

✻ **Extensive Laboratory and Production Facilities.** *Continental conducts chemical analysis and continuing research on dispensing methods and containers. Filling equipment is the finest in the industry, geared to handle orders of any size. Quality control and inspection safeguard your shipments.*

✻ **Warehousing and Drop Shipping in Bulk Lots.** *Extensive storage space lets you use our two centrally-located plants as national distribution points with consequent savings on freight. We handle shipping and paper work. Orders go through on schedule.*

CONTRACT AND CUSTOM FILLING



LIQUID SPRAY FOAM

MAIN OFFICE • 123 NORTH HAZEL STREET, DANVILLE, ILLINOIS

CONTINENTAL FILLING CORPORATION

PLANTS • DANVILLE, ILLINOIS — HOBART, INDIANA

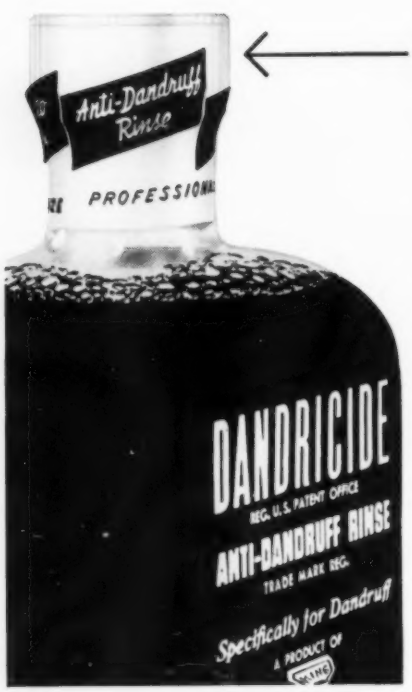
Du Pont CEL-O-SEAL Bands

REG. U.S. PAT. OFF.

complement the package...protect the product

"Proper packaging is an all-important factor in today's highly competitive market. In packaging our Dandricide for both the professional and retail trades, we use distinctive Du Pont 'Cel-O-Seal' bands for a fourfold purpose: The attractive bands assure a stand-out 'quality' shelf appearance . . . they carry plus selling messages right to the point of sale . . . they prevent loss due to lid backoff . . . and they protect against substitution and tampering, inspire consumer confidence. With such benefits—all from one seal—it is easy to understand why we consider 'Cel-O-Seal' bands such an important part of our sales and packaging program."

Says
James King, *Sales Manager*
KING RESEARCH, INC.
Brooklyn, N. Y.



CEL-O-SEAL

REG. U. S. PAT. OFF.

FREE PACKAGING SERVICE:

See for yourself what Du Pont "Cel-O-Seal" can do for *your* package. Send us a labeled dummy bottle. Our packaging specialists will band it, return it for your inspection. No charge, no obligation. (Bands may be hand- or machine-applied.) Write: E. I. du Pont de Nemours & Co. (Inc.), "Cel-O-Seal" Section, 10424-I Nemours Bldg., Wilmington 98, Del. "Cel-O-Seal" cellulose bands are also sold by Armstrong Cork Co., Lancaster, Pa.

DU PONT

REG. U.S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING
. . . THROUGH CHEMISTRY

DU PONT CEL-O-SEAL BANDS

REG. U.S. PAT. OFF.

several companies are denied access to a substantial part of the beauty-supply jobber market."

The Commissioner further emphasized that the anti-trust laws make it necessary for them to take into consideration the situation of small companies which don't have sufficient resources to either spend millions of dollars for advertising or to establish such complete jobber setups of their own.

Portable "Boudoirs"

Portable "boudoirs" that fit into milady's purse and have an array of cosmetics in small lightweight metal tubes are becoming a feminine necessity.

This was the opinion expressed by Thomas C. Sheffield of the Collapsible Tube Manufacturers Council in an address March 19 before the California Cosmetic Association, at the Hotel Statler.

"Increased airplane speeds and travel, in fact, the speed-up of transportation generally, has made it necessary for the modern woman to rely increasingly on portable 'boudoirs,' " Sheffield said.

"The collapsible tube industry is currently conducting studies designed to produce lightweight yet sturdy cosmetic containers out of aluminum and other metals for make-up kits that are compatible with today's travel problems."

Fold-up metal tubes, he said, not only are light in weight, but they require a minimum of space, are unbreakable, and "the products contained in them will always stay fresh and clean and uncontaminated by air."

Sheffield said women are spending five times as much today on cosmetics as those of a generation ago—$3.58 per capita in 1914 to $17.32 in 1953—and that such spending is "only the beginning."

Growing Polyethelene

Fastest growing of all the materials which enter into packaging is undoubtedly polyethelene. Last year, sales of polyethelene went up sharply, with 50 million more pounds sold than a year before. Expectation of the big chemical makers is that this product will continue its sharp sales increase. For this reason the giants of the chemical industry are wheeling into polyethelene in a big way.

Big in this market are Bakelite and Du Pont, original producers, Eastman Chemical Products, an early comer as the market expanded, Dow and Monsanto who are both expanding production and as newcomers, Spencer Chemical and Koppers.

Why Not Soup

The "coffee break" is rapidly becoming an American tradition and is building a huge new consumption for this fortunate beverage.

We would like to know what is happening to the imagination of the people concerned with tea and cocoa. Or even more, we would like to say, "Mr. Campbell, what is wrong with soup?"

Sell and then Advertise

According to a leading producer of phonograph records, it is a characteristic of this business that you first find out whether your product will sell and then you advertise it. It's a pity that this kind of thinking can't be applied in some form to other industries. Certainly, it would have saved our industry in the last several years untold millions of dollars in wasted advertising.

Quote

Warner W. Shelley, President of N. W. Ayer & Son, in a speech at the National Association of Wholesalers, said: "You will hear a great deal in this clinic on distribution, about the upsetting changes which are under way and which will affect your business. Perhaps if you keep one thought in mind they will not be so upsetting. The thought is this: To the timid, change is dangerous; to the bold, it means opportunity."

Lower Impulse

Predictions are being made that non-foods will become a fifth department in super-markets. Non-food sales are now said to run at about 1.7 billion dollars, a third of which represents tobacco.

Most of the drugs and toiletries today in the food market are basic staple or utility products. Probably for this reason, a recent du Pont survey showed that out of ten non-food products, all of which were classified as soft goods, drugs and toiletries had the highest percentage of planned purchases, that is, 22.5 per cent and the lowest percentage of customers that bought on an impulse store decision, that is 77.5 per cent.

See-Thru Cans

Window-top cans are growing in popularity in some branches of the food trade. The cans are supplied with the window sealed on to one end. Packers then have to seal the lid on, as they have been doing with the regular food can.

South Africa

South Africa appears to be opening up as one of the more favorable opportunities for American companies in this industry to expand their business abroad. Several cosmetic and pharmaceutical companies have invested a substantial amount of money for manufacturing facilities and marketing organizations during the last several months.

A recent letter to this publication from Keatings Pharmacy Limited states that there is "a possibility of the withdrawal of import restrictions in the near future." Keatings is one of the larger pharmaceutical companies in South Africa. It is a public company, quoted on the local stock exchange under the name of Adcock-Ingram (Chemists, Ltd.). This company owns all of the stock of the following subsidiaries: E. J. Adcock, Ltd., wholesale chemists operating in Western Transvaal; this company also operates 25 retail pharmacies. Saphor Laboratories, Ltd., of Johannesburg, pharmaceutical manufacturers; Keatings Pharmacy, Ltd., wholesale distributors of ethical pharmaceuticals; Fred Ingram, Johannesburg, the largest retail pharmacy in the city; and Reed & Champion, Ltd., Durban, the largest retail pharmacy in the country.

A director of this company expects to visit America toward the end of May to discuss with American manufacturers the marketing of their products in South Africa and the Rhodesias.

Now! PUSH UP YOUR ...

use genetron®

...the right propellents for every aerosol need!

America *wants* the push-button convenience of pressure-propelled products... the amazing sales of aerosols prove that! Now, with General Chemical's expanded line of GENETRON aerosol propellents, an even greater variety of products can profit from this growing demand. Check the list of GENETRON propellents at right for your specific formulation requirements. You'll find a GENETRON propellent for every purpose!

Technical Assistance on Aerosol Packaging Problems

General Chemical's Technical Service Department can help you get started in aerosol packaging, or give the technical assistance needed in developing new types of pressure-packed products. It is completely equipped with experimental aerosol filling and testing apparatus; has accumulated data on formulation compatibility, vapor pressures, densities, for a wide range of products, etc. For full information, write the nearest General Chemical office listed at right.

These GENETRON Propellents bring new versatility to aerosol packaging:

genetron 12: Dichlorodifluoromethane, the first widely used aerosol propellent, is ideally suited for formulations requiring high vapor pressure, low boiling point, such as insecticides, paints and lacquers.

genetron 11: Trichloromonofluoromethane; finds its greatest use in combination with GENETRON 12 in a majority of low pressure formulations, such as hair lacquers, air refreshers, Christmas snow, space and residual insecticides.

genetron 320: Dichlorotetrafluoroethane; used in combination with GENETRON 12 in shave lathers and other foam products; makes possible a whole new range of drug and cosmetic aerosol products.

genetron 101: Monochlorodifluoroethane; has high vapor volume and odor stability characteristics that particularly suit it for use in the perfume industry —less propellent goes a longer way.

genetron 226: Trichlorotrifluoroethane; is for use principally as a blend with other GENETRONS in specialized formulations (powders, certain foam products).

genetron 141: Monochlorodifluoromethane; is excellent as a blending agent because of its unique solvent properties and high vapor pressures.

genetron 100: 1-1, Difluoroethane; is of particular value where highly solvent properties are required.

FREE—VALUABLE NEW BOOKLET, "ALL ABOUT AEROSOLS." Write for a copy today!

Non-toxic—stable, chemically inert—excellent compatibilities — optimum vapor pressures—correct particle size —consistent quality—economical

AEROSOL PROFITS
Make Better Products

Producing Your Product in Aerosol Form

One of the major advantages of marketing or testing the potential of your product in aerosol form is that it need not involve a large initial cash outlay. Entry into this profitable field can be made economically and without investment in plant or special equipment.

Capable Contract Fillers

This is possible because there are many highly capable "Contract Fillers" throughout the country who will put up your product in aerosol form in quantities as low as a few thousand. These Fillers offer a wealth of accumulated experience invaluable to the newcomer to aerosol marketing. For a list of Aerosol Contract Fillers, write General Chemical, address below.

Genetron Department

GENERAL CHEMICAL DIVISION

ALLIED CHEMICAL & DYE CORPORATION

40 Rector Street, New York 6, N. Y.

Offices: Albany • Atlanta • Baltimore • Birmingham • Boston • Bridgeport • Buffalo Charlotte • Chicago • Cleveland • Denver • Detroit • Greenville (Miss.) • Houston Jacksonville • Kalamazoo • Los Angeles • Minneapolis • New York • Philadelphia Pittsburgh • Providence • San Francisco • Seattle • St. Louis • Yakima (Wash.)
In Wisconsin: General Chemical Company, Inc., Milwaukee
In Canada: The Nichols Chemical Company, Ltd. • Montreal • Toronto • Vancouver

GC Allied Chemical

Basic Chemicals for American Industry

Beautifies! Protects! Sells!

...quality packaging by

SHELLMAR-BETNER

With so many exciting products to choose from, does your customer reach for your brand? She does, if it's attractively packaged, if she knows that your product will stay fresh and keep its high potency value. A package by Shellmar-Betner gives her that assurance.

At Shellmar-Betner we've had years of experience in drug and cosmetic merchandising, package design and quality printing. Our designers work with foil, acetate, polyethylene, vinyl—in fact, every type of flexible lamination. They are skilled in flexographic and gravure printing, too. And the tougher the job, the better they like it.

So remember the name, Shellmar-Betner. Call us to talk over your packaging problems.

Our Fiftieth Year of Tailor-Made Packaging

CONTINENTAL CAN COMPANY

SHELLMAR-BETNER

FLEXIBLE PACKAGING DIVISION

MT. VERNON, OHIO

Sales Offices in Principal Cities

Doings

Smith, Kline & French Laboratories has introduced Mio-Pressin, the first specific three-way attack on mild, moderate or severe hypertension.

Sindar Corp. has developed a new antioxidant which will be offered under the name, Compound 19. The product effectively prevents odor and color reversion in alkyl aryl sulfonates.

Schenley Laboratories is marketing a new suspension form of its peristaltic stimulant, "Dorbane," in addition to tablets.

Winthrop-Stearns is now offering Monodral, a powerful anticholinergic agent, in elixir form. The drug has a strong effect in inhibiting gastric motility and secretion.

Lederle Laboratories has released Achromycin Pharyngets and Achromycin Troches, two new, highly palatable preparations for the control of superficial infections of the mouth and throat.

Chas. Pfizer & Co. has prepared Combistrep solution which contains equal amounts of streptomycin and dihydrostreptomycin. This animal health product has been found particularly effective against the agents responsible for chronic respiratory disease in poultry.

Shulton is launching nationally its new suntan lotion, Bronztan, which is said to give a remarkably long-lasting sun protection and remain on the skin even after swimming. Bronztan repels water; it is also non-greasy and repels dust and sand.

Rubba, Inc., 1015 East 173rd St., New York 60, has developed Rubbatex peelable adhesive for polyethylene. This makes it possible to adhere any paper label to polyethylene items. At the same time, the label may be easily removed by the consumer.

Schering Corp. is distributing Meticorten Tablets containing a new and highly potent cortisone-like steroid having powerful anti-inflammatory action. It is recommended for palliative treatment of Rheumatoid arthritis.

Armour Laboratories has released Tri-Synar, a three-way product which relieves smooth-muscle spasm.

Smith, Kline & French Laboratories has introduced a liquid dosage form of Thorazine Hydrochloride. Thorazine Syrup is especially valuable in pediatrics and also for the treatment of elderly patients who experience difficulty in taking tablets.

Faberge has a new Bath Powder, perfumed with Aphrodisia, Woodhue, Tigress or Act IV. It is presented in an elegant fabric-topped gift. Also included is a fluffy new ballet puff in rainbow colors.

Douglas Laboratories Corp. has redesigned the label on its Coppertone Suntan products line. The new label is brighter, clearer and offers easier identification.

Parke, Davis & Co. has announced the preparation of a new liquid form of Bardase for the treatment of visceral and smooth muscle spasm.

E. R. Squibb & Sons has developed a new antibiotic combination, Mysteclin, which provides both broad spectrum antibacterial activity and protection against the sometimes-fatal hazard of secondary infection by fungus growths. It is a combination of Steclin (Squibb tetracycline) and Mycostatin (Squibb nystatin).

Winthrop-Stearns has combined Mebaral, a sedative and anti-epileptic drug, with its recently introduced anticholinergic agent, Monodral, in order to provide a calming effect on high-strung individuals with peptic ulcer.

Bristol Laboratories is marketing Polycycline aqueous 250, a cherry-flavored oral suspension of the broad spectrum antibiotic, tetracycline. It is bottled as a liquid which is said to be stable for 18 months.

Nepera Chemical Co. is distributing plastic spray atomizers to physicians as samples. They are said to be the smallest plastic atomizers ever designed for medical use. The company is carrying out this promotion in order to acquaint doctors further with Biomydrin, a clinically accepted drug used for the treatment of upper respiratory tract disorders.

Givaudan-Delawanna, Inc. has synthesized a new musk body, trademarked Versalide. It is a pure chemical of ketonic nature with an intense, sweet odor and lends sweetness, strength and fixation to a perfume.

Schering Corp. is distributing Corticloron Nasal Spray for the relief of nasal symptoms associated with hay fever, or for other allergic conditions of the nose.

Schenley Laboratories is marketing Colostat, a pleasant-tasting antidiarrheal product containing colloidal kaolin, calcium carbonate and sodium carboxymethylcellulose.

Chas. Pfizer & Co. has introduced Toclase, a non-narcotic cough preparation, in three dosage forms.

Upjohn Co. is marketing two new pediatric dosage forms of tetracycline under the trade names of Panmycin Drops and Panmycin Readi-Mixed.

Procter & Gamble has introduced Whipped Drene, which, the company states, is the first synthetic detergent shampoo ever to be packaged in an aerosol bottle.

Success of aerosol the importance of a

Here's why an aerosol package is more than a container

Of course, an aerosol package is wonderful protection against breakage and spoilage or evaporation for a product. Retailers surveyed recently gave that as one of the prime advantages of aerosols . . . a good package *should* protect the product.

But more than that, an aerosol package is interesting and catches the customer's eye and her imagination. With aerosol containers it's also easy to put plenty of information on your label, completing your selling job at the point of sale.

And an aerosol package gives your product an extra selling point that goes right home with the customer—convenience. It's so easy to use aerosols and get good results that your product will actually give more satisfaction and win repeat sales.

hair spray shows working package

Ask Du Pont to help you explore popular aerosol packaging for your products

Here's a product that illustrates clearly how much an aerosol package can help win sales. This hair-spray package actually *works for* the manufacturer because, in addition to protecting the product, it helps to sell and to dispense it! In fact, no other method of application gives the same even coverage.

Hair sprays are only one of the many product types that have won sales success in aerosol packaging. Consumers *like* to buy products in aerosol form because aerosols are neat and easy to use, quick and convenient. Certainly a field as promising as this deserves careful study. And Du Pont—for years manufacturer of "Freon"* fluorinated hydrocarbon propellents—stands ready to help you look into aerosol packaging possibilities.

Du Pont's "Kinetic" Chemicals laboratory offers facilities unsurpassed for aerosol-product research. Our experienced chemists can help you decide whether your product is suitable or can be adapted for aerosol dispensing. We can also advise you on setting up your own laboratory program for aerosol research and development. And for facts on which to base your decision on aerosols, consult Du Pont's fund of market research on aerosols.

Of course, no one is in a better position to advise you on the selection of an aerosol propellent than Du Pont. We've developed many "Freon" propellent formulas, and can help you choose the one that will best suit your product.

Let Du Pont help you look into the tremendous potential of aerosol packaging for your product. Fill in the coupon below and mail it today.

• • •

HERE'S HOW AEROSOL PACKAGING PAYS OFF AT THE RETAIL LEVEL

This chart shows conclusively how the retail druggists of the nation have received aerosol products. Du Pont's latest Survey of the Aerosol Market revealed that 99% of the druggists interviewed stocked one or more aerosols. Retail acceptance like this can help you put over your product . . . in an aerosol package!

KINETIC

FREON

SAFE PROPELLENTS

**"Freon" is Du Pont's registered trade-mark for its fluorinated hydrocarbon propellents*

DU PONT

REG. U. S. PAT. OFF.

Better Things for Better Living . . . through Chemistry

PIN THIS COUPON TO YOUR COMPANY LETTERHEAD

E. I. du Pont de Nemours & Co. (Inc.)
11500 Nemours Bldg., Wilmington 98, Delaware

☐ Please send your booklet on aerosol packaging, "Package for Profit."

☐ I am interested in market-research data.

☐ I am interested in learning how I can get technical assistance.

The type of product I have in mind for aerosol packaging is _____

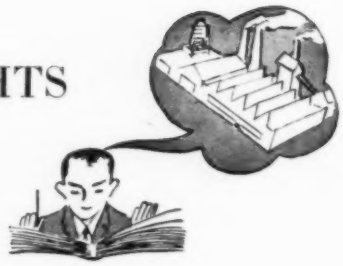
Name _____

Position _____

Patent THOUGHTS AND TRENDS

*by Thomas Cifelli, Jr.**

PATENT ATTORNEY



Rise v. Rapid Shave

Judge Coleman's opinion in the case of Carter Products v. Colgate is now available. The importance of this case is such that reproduction of the whole opinion would be desirable. However, space limitations make that impossible and we shall therefore touch only some of the highlights.

The Invention

The carter patent (U. S. 2655480) deals with a composition for use in producing a soap or detergent lather without resorting to any manual or mechanical whipping or agitating operation. It embraces a pressurized self-generating lather composition in a small can with a press-button, outlet valve which Carter makes and sells as a shaving preparation under the name "Rise."

The lather composition comprises a water solution of a suitable soap or like detergent and a highly volatile propellant. At least a substantial part of the propellant is insoluble in the soap solution and is maintained in the liquid phase, existing as droplets or in the form of a liquid-liquid emulsion in the soap solution. When the valve is opened, a fine textured, creamy lather is produced.

Prior to the time of this invention of Joseph Spitzer, Irving Reich and Norman Fine, lather for shaving had always been made by whipping air into a soap and water solution by using a shaving brush either with the rather obsolete mug or with tube shaving cream whipped into a lather on the face by a brush. An adaptation of this principle for the professional barber is a rather modern lather-making machine used in barber shops, where air is mechanically whipped into a soap solution to form a lather by a motorized process. All of these lathers whether made by brush or by machine employ ordinary air as the bubble-forming gas.

*Richards and Cifelli
Newark, New Jersey

The other type of shaving cream is the well known brushless type. This forms no lather. Brushless creams are relatively inefficient, being less pleasing to use, harder to remove from the razor and the washbowl and are in vogue primarily for greater convenience since no whipping up of the lather is required.

Prior Patents

Colgate and the other defendants relied upon the following patents in support of their contention that the Carter patent was invalid:

Rotheim	U. S. 1892750
Getz	U. S. 2294172
Boe	U. S. 2524590
Belgian Patent	487623
Argentine Patent	59548
Panama Patent	157

In considering the foreign patents Judge Coleman found that the Belgian patent need not be considered because it was published too late. The Argentine and Panama patents were found to be merely typewritten documents and not printed publications and hence could not be used against the Spitzer et al patent.

United States Patents

With regard to the three U. S. Patents which Colgate relied upon, the court had the following to say:

As to the patent to Rotheim this teachers the method for atomizing liquid material dealing with a spray. Furthermore, Rotheim teaches that the ingredients of his soap solution should dissolve in the propellant whereas it is a basic requirement of the Spitzer patent that such ingredients shall not dissolve in the propellant. The Judge felt that reliance upon Rotheim would mislead rather than aid in obtaining what the Rotheim patent teaches.

As to the Getz patent, this teaches the making of whipped cream with a propellant, that is, a gas, soluble in water and in the cream that is to be used. The Court mentioned that it was true that Getz states that Freon 12 is highly water soluble but stated that "this is indisputably an erroneous statement."

With regard to the Boe patent which is for an aerosol spray, the court found that it does not teach the making of lather but of a fine mist for spraying and Boe requires that the ingredients should dissolve in the propellant and indeed he cautions against the production of a form of lather.

Prior Use

In addition to relying on the aforesaid patents Colgate and the other defendants relied upon public use in the U. S. A. in 1946 and 1947 of a Daggett and Ramsdell product and the prior invention of the Gebauer Chemical Co., called Sonni Foam Shampoo. The Judge found that the latter product was apparently a commercial failure and abandoned after only a few of some 300 bottles were actually sold. The Judge also found that the propellant used in this latter product was a mixture of Freon-11 and ethyl chloride which has neither the solubility nor the vapor pressure limitations of any of the claims of the Spitzer patent. Also, the Judge found that Freon-11 was not in any of the Freon groups embraced in these claims.

Turning to the Daggett and Ramsdell products, the Judge found that in 1946 one of the Daggett and Ramsdell chemists secretly developed several shaving lather compositions pressurized with either a mixture of Freon-11 and -12 or Genetron 101, Freon-11 and Freon-12. These samples were given to eight persons to try and the chemist reported his findings to his superior. His testimony was taken by deposition. The Judge was unable to determine what composition he used and therefore felt that the evidence was too inadequate to support a definite finding of prior use.

Successful Merchandisers Know

she prefers containers by

IMCO*

You can rationalize all you wish about containers, but when you come down to facts your sales always depend on consumer preference.

Mrs. Consumer wants beauty, color, utility, and safety. And Imco plastic containers satisfy all of these demands, both at point of sale and in the home.

The proof lies in the growing list of successful products sold in IMCO containers.

May we help you solve your container problems?

CORPORATION

EMPIRE STATE BUILDING, RM. 6204
350 FIFTH AVE., NEW YORK, N. Y.

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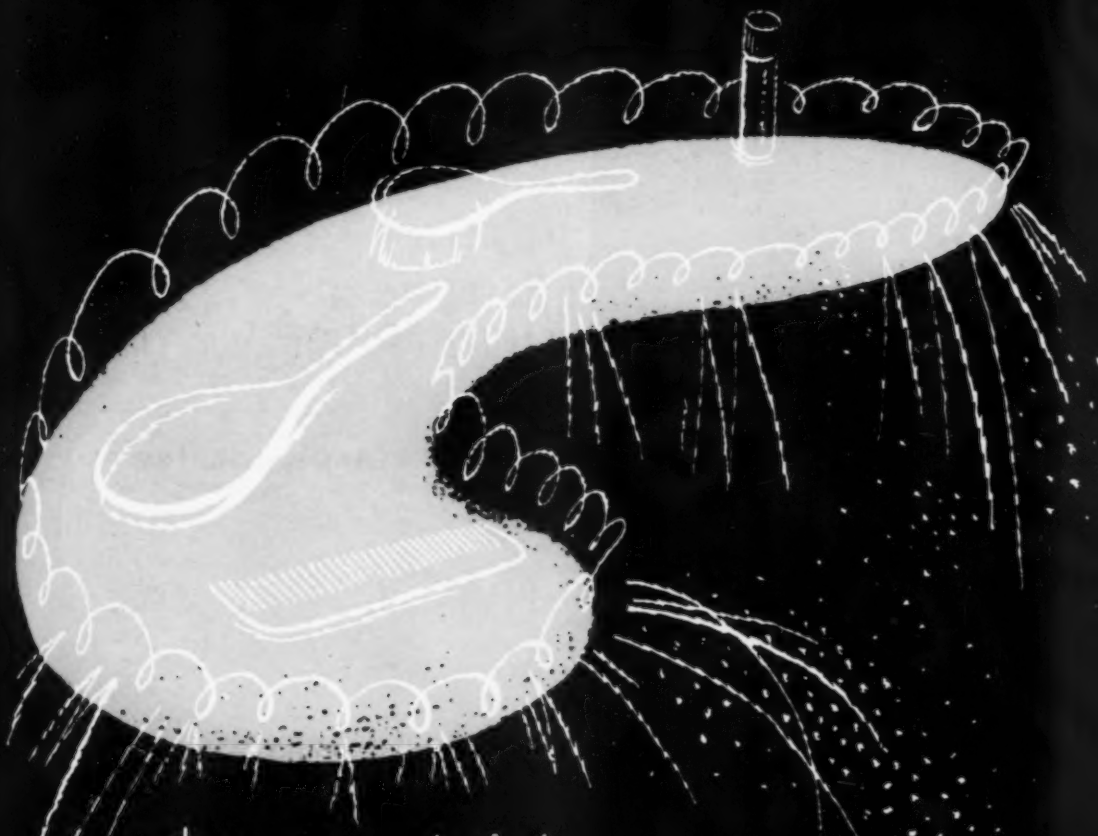
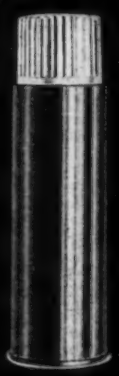


The first cosmetic look in aerosol containers...

Slimly gauged for dainty handling — Styled with her dressing table in mind — A perfectly functioning, seamless aerosol container with fashion in its every line. Prompt delivery — holds up to 2¼ ounces. Will gladly supply free test samples with your product in it.



SUNEX

DIVISION OF Sun Tube CORPORATION

HILLSIDE N. J. PHONE WAVERLY 3-0400

SUN TUBE CORPORATION, HILLSIDE, NEW JERSEY, Waverly 3-0400

St. Louis 1, Missouri: Marvin Kates Co., Arcade Building
Cincinnati 8, Ohio: Ralph H. Aust, 3449 Eastern Road
New Orleans 19, Louisiana: R. P. Anderson Co., 925 N. Solomon Pl.
Houston 19, Texas: R. P. Anderson Co., 3643 Overbrook Lane
Dallas 2, Texas: R. P. Anderson Co., 1122 Texas Bank Building
West Coast: Wm. J. Stapper, 301 E. Colorado, Arcadia, California
Canada: Sun Tube Corp., 135 Spruce Street, Ottawa, Ontario
Mexico: Tubos de Estano, S. A. de C. V., 174 Oriente No. 267, Colonia Montezuma, Mexico, D. F.

Judge's Findings Relating to Invention

The Judge found that the individual ingredients of the shaving soap solution embraced in the Spitzer patent were old. So were the Freons. Also Freons had previously been used successfully as propellants in aerosols and insecticides. In other words, the combination of some Freons with the Spitzer soap solutions was not new. But the combination of an aqueous soap solution emulsified in a liquid base with a Freon which had not only low water solubility but which combined the properties of (1) not smarting or burning the face and (2) good stable lather was unknown. There were a number of Freons used in the propellant art which did not smart or burn the face, but they did not afford a good stable lather. Conversely, there were those Freons that were known to give a satisfactory lather but they were disagreeable on the skin.

The Judge felt it was this combination of a relatively small group of Freons that manifest these desirable properties of low water solubility and the optimum characteristics of non-quality and of lather quality, with aqueous soap solutions which constitutes the invention of Spitzer and his associates. The Judge felt that the inventors discovered that all three of these characteristics were inter-related. They found that Freons having a solubility in water not exceeding about 32 cc. of gas to 100 grams of water were found to be the Freons productive of the optimum of the other two qualities desired in the lather composition. This is what the specifications of the Spitzer patent teach and all eight of the claims in suit are responsive of this teaching, Judge Coleman felt.

Alleged Appropriation of Confidential Information and Trade Secrets by Colgate

On this question the Judge made the following findings:

"We find to be correct, by the weight of the credible evidence, the following chronology of what occurred from the beginning of the development of 'Rise' to the institution of the present suit: March, 1949: Spitzer, Reich and Fine began their research and development work. April, 1950: Carter put 'Rise' on the market. May and July, 1950: Colgate analyzed 'Rise,' and endeavored, unsuccessfully, to duplicate it, although claiming that the 'Rise' formula had been completely reproduced but was not found satisfactory, particularly because it did not result in sufficient exhaustion of the product from the can. Also, Colgate was troubled with sputtering of the product. September, 1950: Fine entered the employment of Colgate although he had been a co-inventor of 'Rise.' October 1950: Fine revealed to Colgate the causes of the sputtering. November, 1950: Fine disclosed to Colgate the precise formula of 'Rise,' and also combined that formula with diluted Colgate lather, to make Rapid-Shave No. 1. Further he disclosed to Colgate, and to the latter's supplier of valves, the syphon tube annealing process employed by Carter for 'Rise.' August, 1951: Colgate filed in Fine's name a patent application covering the formula of Rapid-Shave No. 1, which embodied his work originally done on 'Rise.' November, 1951: Fine prepared, and disclosed to Hansen, his assistant at Colgate, a duplicate formula for "Rise," superfatted, i.e., with excess of fatty matter (soap). September, 1952, until February, 1953: Colgate pursued its experimentation in superfatting the 'Rise' formula with petrolatum, carbo-wax and excess stearic acid, and then marketed its Rapid-Shave No. 2. September, 1953: Colgate filed its second patent application in the name of Fine and associates, based on the development work that Fine had done while employed by Snell. October 13, 1953: the Spitzer ('Rise') patent was issued and the present suit was instituted the same day."

The Judge drew the conclusion that this story amounted to wrongful appropriation of secret, confidential information, acquired by Fine while at Snell's. This is so even though there was no evidence that Colgate induced Fine to come to it. The Judge felt that "Colgate knew, or must have known by the exercise of fair business principles, that the precise character of Fine's work with Snell, was in all likelihood covered by the agreement which Fine had with Snell not to divulge trade secrets, and that, therefore, Colgate was obligated to do more than it did towards ascertaining the extent to which Fine was, in fact, restricted in what he might disclose to Colgate."

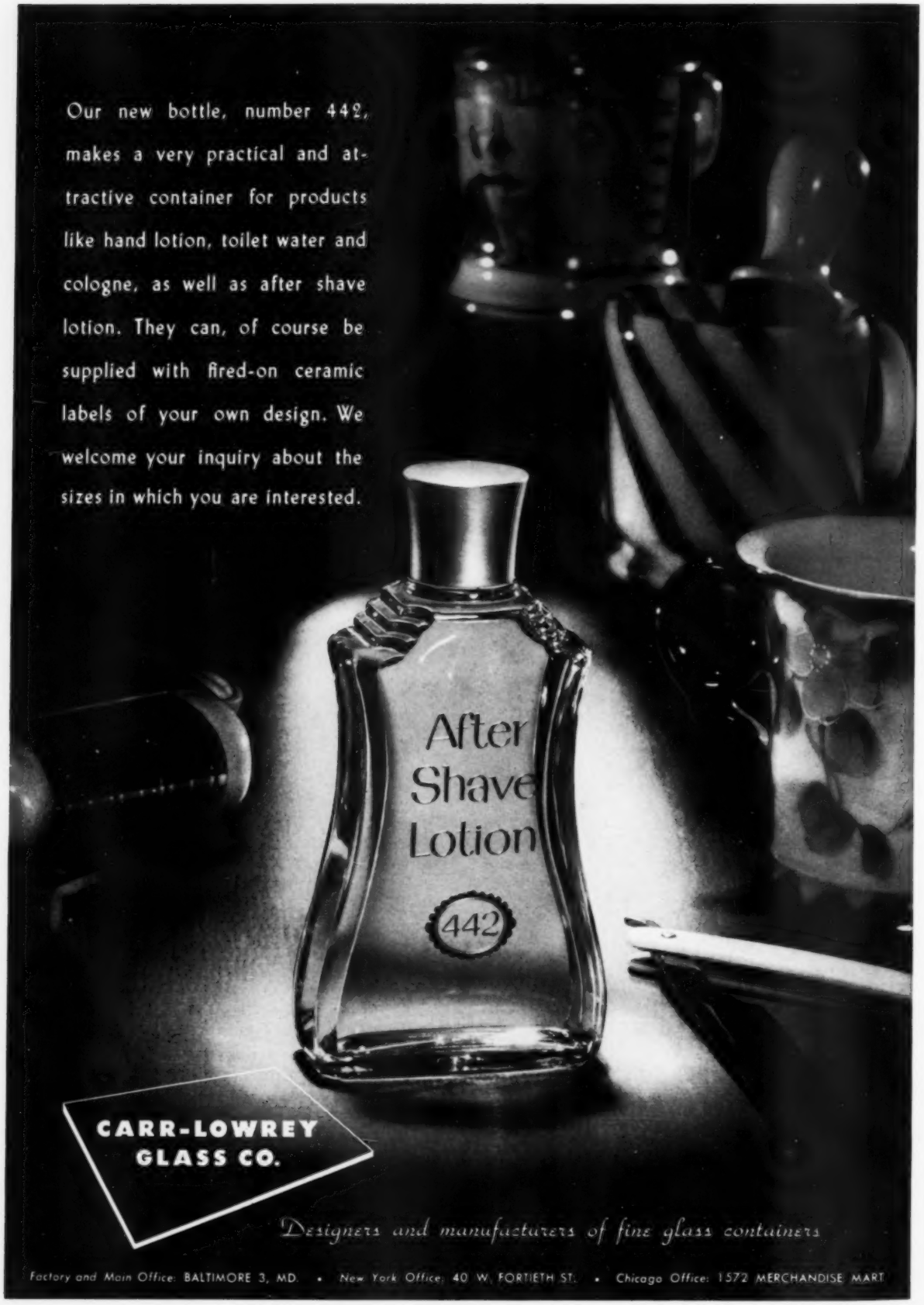
Summary of Conclusions

"The conclusions of the Court, summarized, are as follows: (1) All of the 21 claims of the Spitzer patent are valid; (2) defendants Colgate, Stalfort and Read have infringed claims 5, 6, 8, 9, 10, 15, 18 and 20; and (3) defendant Colgate has wrongfully appropriated confidential information and trade secrets of Carter.

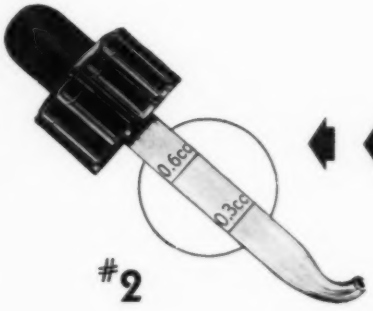
A decree will be signed, embracing the aforegoing and: (1) permanently enjoining defendants Colgate, Stalfort and Read from committing further acts of infringement of the Spitzer patent; (2) requiring these defendants to account to Carter, and to the other plaintiffs as their interests may appear, for damages and profits occasioned by the infringements; (3) requiring defendant Colgate to account to Carter, and to the other plaintiffs as their interests may appear, for such damages as the plaintiffs have sustained through Colgate's wrongful appropriation of the plaintiffs' confidential information and trade secrets, and for profits derived by Colgate by reason of the same; (4) referring this proceeding to a Special Master for the purpose of determining the amount of damages and profits occasioned by the infringements of defendants Colgate, Stalfort and Read and by the wrongful appropriation of confidential information and trade secrets by defendant Colgate; and (5) requiring the defendants to pay the costs of this proceeding in the proportions to be hereinafter fixed by this Court."

In connection with the measure of damages the Judge pointed out that a patent entitles a patentee to damages for infringement only from the time a patent is granted. Here Colgate is liable to Carter for damages resulting in advance of the granting of the patent also. In this the Judge followed two cases which hold that where, in advance of the granting of the patent an invention was disclosed to one who, in breach of the confidence thus reposed, manufactures and sells articles embodying the invention, such persons should be held liable for the profits and damages resulting therefrom, not under the patent statutes, but upon the principle that equity will not permit one to unjustly enrich himself at the expense of another.

(Continued on page 558)

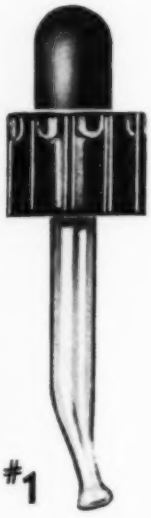

Our new bottle, number 442, makes a very practical and attractive container for products like hand lotion, toilet water and cologne, as well as after shave lotion. They can, of course be supplied with fired-on ceramic labels of your own design. We welcome your inquiry about the sizes in which you are interested.
After Shave Lotion
442
CARR-LOWREY GLASS CO.
Designers and manufacturers of fine glass containers
Factory and Main Office: BALTIMORE 3, MD. • New York Office: 40 W. FORTIETH ST. • Chicago Office: 1572 MERCHANDISE MART

New Perfection DROPPING PARTS



#2

ACCURATELY CALIBRATED In Any Color

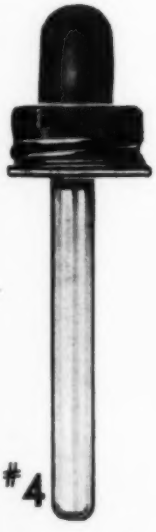

#1

#3

This Inexpensive EXTRA FEATURE Adds A Welcome Convenience To The Use of Your Product

Accurate calibration of New Perfection dropper glasses adds immeasurably to the user's satisfaction with your product. Not only is the specified dose measured with more precision, but the tedious and time-wasting practice of counting drops is made unnecessary.

Trade-marks or firm names may also be imprinted on the glass, assuring that the name will be identified with the product each time it is used.


#4

We can supply various colors of bulbs in natural rubber or in our special oil-resisting Amekine compound, caps of plastic or metal in many sizes and colors, and various types of dropper glasses in any length. New Perfection dropping parts will fit your own bottles, or can be supplied in combination with our Modernistic bottles in Amber, Blue, Green or Clear glass. Sizes: ⅛, ¼, ½, 1 and 2 oz.

Write for Samples and Quotations

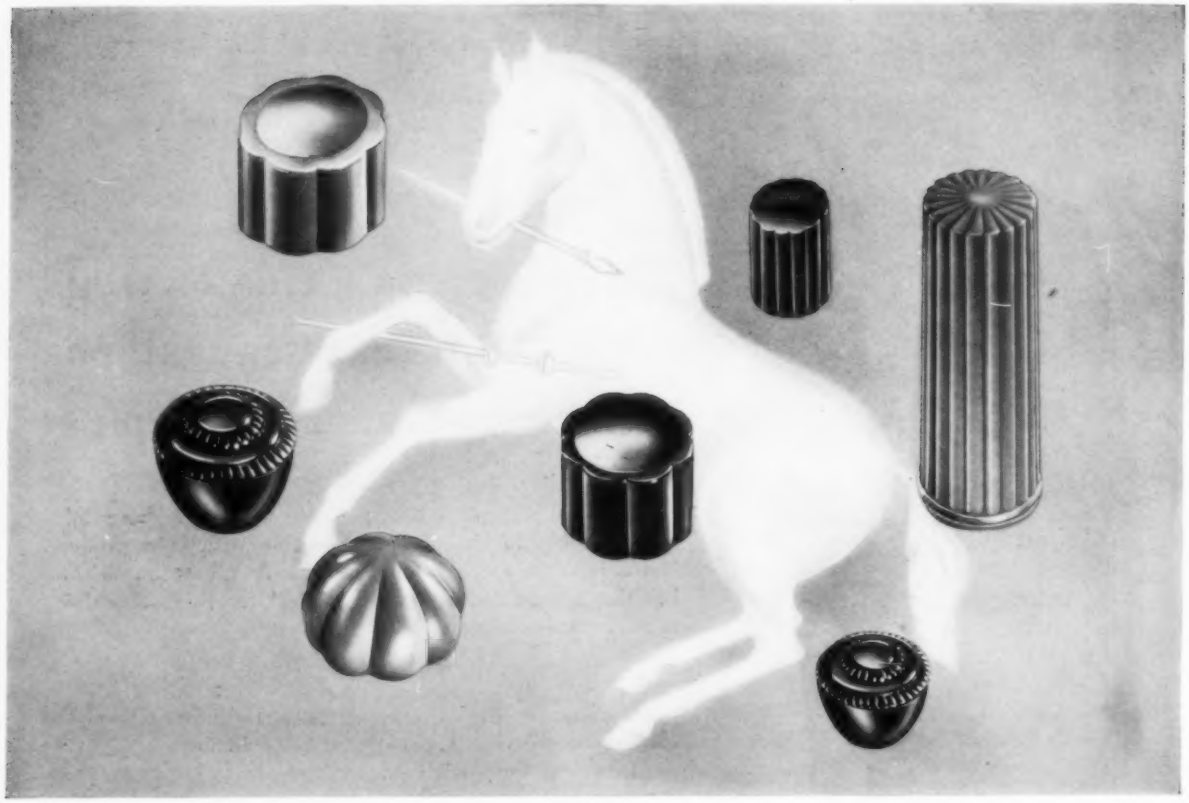
PENNSYLVANIA GLASS PRODUCTS CO. INC.

"Glass Goods of the Better Kind"

430 N. CRAIG ST. • PITTSBURGH 13, PA., U. S. A.

HOUBIGANT
CHERAMY

THE QUALITY guarded by these closures has been made famous by Houbigant and Cheramy. The closures are gracefully styled by Colt's to add charm and distinction of appearance to the unforgettable fragrances by these famous perfumers.



In a variety of shapes and colors, Colt's molded plastic closures effect a harmony of package and product so desired by discriminating women.

Colt's offers a complete service in custom molding — from the conception of an idea to the completion of closure or container . . . and those looking for stock items will find the same satisfaction. Write for information about this versatile plastics center and the service it offers you.

COLT

COLT'S MANUFACTURING COMPANY • PLASTICS DIVISION • HARTFORD 15, CONNECTICUT

NEWS . . .

Hicks, V.P., Lever Brothers

T. E. Hicks has been elected a vice-president of Lever Brothers Co. and will assume the position of marketing vice-president of the Pepsodent division, according to William H. Burkhart, president.

He has had extensive experience in the drug field, having been vice-president and manager of salesmen, and director, of Johnson & Johnson, and president of Personal Products Corp. For the past year he has been associated with Julius Schmid Inc.

T. E. HICKS

Gair Expansion Program

Robert Gair Co. is planning a large-scale expansion program in the South, according to George E. Dyke, president. Company directors have approved, for submission to the stockholders, agreements under which the company will acquire the assets and assume the liabilities of the Southern Advance Bag & Paper Co., Inc., and the Great Southern Box Co., Inc.

Both agreements, on which stockholders will vote at Gair's annual meeting in New York on April 21, provide in effect for an exchange of Gair stock for the shares of the companies it will acquire. Each agreement is also subject to approval by stockholders of the company being acquired.

The expansion will extend Gair's fabricating activities into the kraft bag field, extend its container operations to a rapidly growing section of the Deep South and substantially increase its timberland holdings and production of woodpulp and kraft.

Pharm. Education Elections

James J. Kerrigan, president, Merck & Co., has been elected president of the American Foundation for Pharmaceutical Education, and Francis C. Brown, president, Schering Corp., has been named vice-president.

The other officers, all re-elected, are Howard P. Fonda, senior vice-president, Burroughs Welcome & Co. (U.S.A.) Inc., treasurer; James F. Hoge, Rogers, Hoge & Hills, Counsel; and W. Paul Briggs, former dean, the George Washington University, secretary.

H. A. B. Dunning, chairman of the board, Hynson, Westcott & Dunning; Mr. Fonda; O. J. May, executive vice-president, Smith, Kline & French Laboratories; John G. Searle, president, G. D. Searle & Co.; and Ernest H. Volwiler, president, Abbott Laboratories, were re-elected as directors.

JAMES J. KERRIGAN

Rice Retires from Lilly

Ward J. Rice, executive director of control for Eli Lilly & Co., retired February 28 after 43 years of service. He joined the company in 1911 as a bacteriologist and analytical chemist and 15 years later became head of the analytical department. He was named director of the quality control division in 1930, a position he held until 1950 when he assumed the responsibility of executive director of control.

Quality Control Group Elects

Jack Cooper has been elected chairman of the Pharmaceutical Quality Control Group of New Jersey for the period ending March, 1956. Dr. H. I. Mitchell is chairman-elect and Joseph W. Kouten, secretary and treasurer.

The objective of the group is to foster a free exchange of ideas, expressions and discussion on problems in this year involving quality control in the pharmaceutical industry.

Greber in SKF Exec. Post

Arthur C. Greber, formerly chief engineer of Schenley Laboratories, has been named assistant to the vice-president of the manufacturing division at Smith, Kline & French Laboratories. He will coordinate present and future plant layouts, equipment capacity studies and improve various manufacturing operations.

Magnus Named Ass't Treasurer

Robert Burke Magnus, Jr., son of Vice-president Robert B. Magnus, has been elected assistant treasurer of Magnus, Mabee & Reynard. He joined the company in 1950 and since that time has worked in a number of departments in preparation for important executive responsibilities.

ROBERT B. MAGNUS, JR.

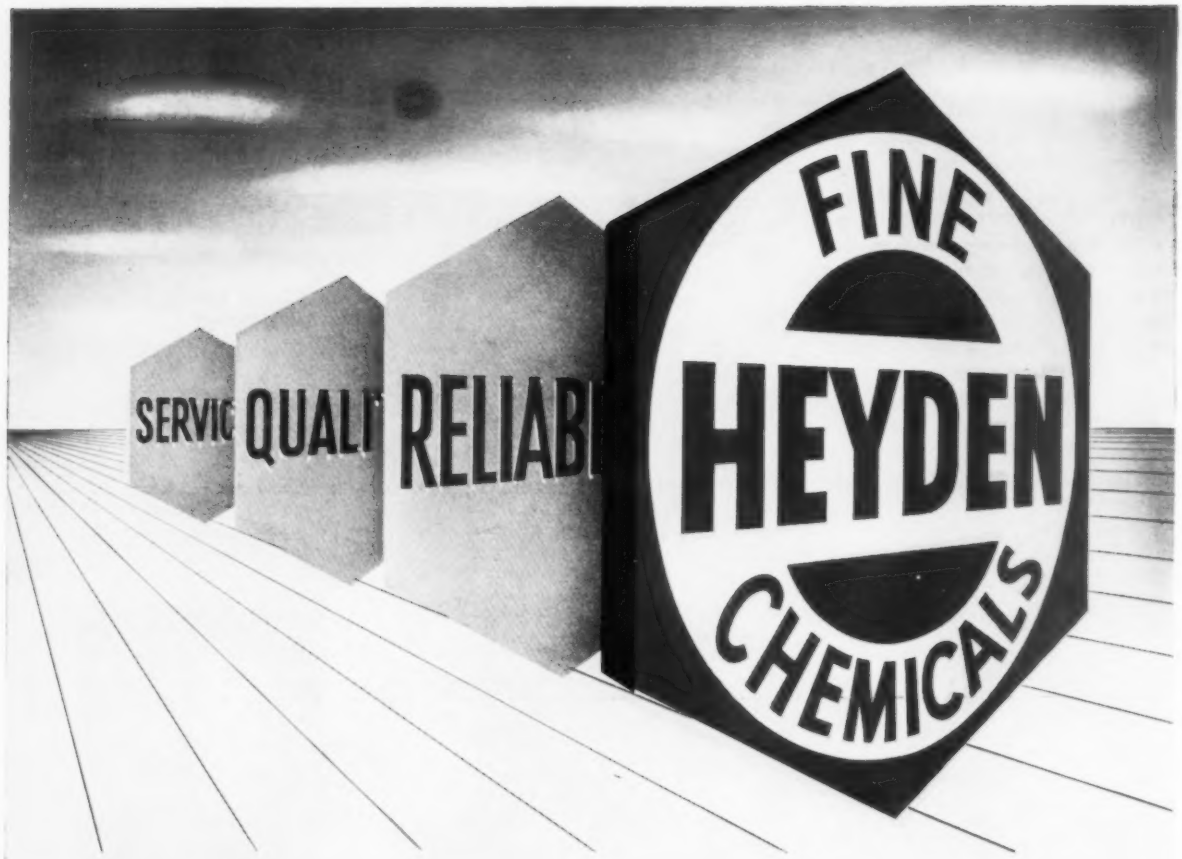
Armstrong Cork Expansion

The glass container plant of Armstrong Cork Co. will have an addition of more than 100,000 square feet of floor space during a two-year construction project about to begin, according to J. C. Feagley, vice-president and general manager of the firm's glass and closure division. The entire program is expected to be completed by late 1956.

This is the latest in a series of steps in Armstrong Cork's expansion. When completed, this project will make the Millville plant one of the most modern structures of its kind in the country, according to Mr. Feagley.

Mallinckrodt Appointments

Francis J. Carr has been appointed vice-president of Mallinckrodt Chemical Works. He has been succeeded as controller by Harold A. Brinner. Mr. Brinner had formerly been assistant controller.



What's behind the hexagon?

Benzaldehyde
Benzyl Chloride
Beta-Oxynaphthoic Acid
Chlorotoluenes
Formaldehyde
Formic Acid
Guaiacols
Hexamethylenetetramine
Parahydroxybenzoates
Pentaerythritols
Resorcinol
Salicylates
Salicylic Acid
Sodium Benzoate
Sodium Formate

Reliability—Quality—Service—one might say that these constitute three sides of the Heyden hexagon. They have been there for over 50 years during which Heyden has manufactured organic chemicals bearing this trademark.

Helping you to improve your product by supplying better raw materials is our business. Some of the principal Heyden chemicals are listed here. We will welcome the opportunity to work with you. Why not consult our technical or sales staff on your particular requirements?

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Chicago • Cincinnati • Detroit • Philadelphia • Providence • San Francisco
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Perfumer Symposium

The American Society of Perfumers, Inc. held its first open symposium on March 16th at the Advertising Club, New York City. Over 200 members of the Society and the industry were present.

Ernest Shiftan, van Ameringen-Haebler, Inc., and Society president, delivered a welcome address, while Dr. Oliver L. Marton, Shulton, Inc., and program chairman, made some introductory remarks.

Following these talks, Dr. Arthur Fox, director of research, Colgate-Palmolive Co., and Serge J. J. Lakhovsky, perfume research of Coty, Inc., discussed the first subject of the Symposium, "The Use of Specialties in Perfume Creations."

The second subject, "Problems Involved in the Adaptation of a Fragrance to a Complete Toiletries Line," was discussed in a round-table conference. Speakers were Dr. Oliver L. Marton, Shulton, Inc., who discussed "Perfume Problems Due to Physical Structure of Materials;" J. Roger Elliott, Consulting Perfumer, whose subject was "Chemical Factors Affecting Fragrance in a Line;" Christian F. Wight, Perfumer of van Ameringen Haebler, Inc., "Esthetic Considerations in Perfumery;" J. George Fiedler, Kelton Cosmetic Co., "Problems of a Cosmetic Chemist Working with Unknown Perfume Materials;" Everett D. Kilmer, Perfumer in Research and Development for Lever Brothers, Inc., "The Adaptation of a Fragrance to Soap," and Victor Di Giacomo, Perfumer of Givaudan Dela-Wanna, Inc., whose subject was "Fragrances for Aerosols."

Contributing to this discussion were A. L. van Ameringen; Pierre Bouillette, perfumer, Givaudan Delawanna; Walter Langsfelder, chief perfumer, Fleuroma; Dr. Saul, Bristol Meyers; Robert Horsey, Givaudan Delawanna; George Fuller, perfumer, Colgate - Palmolive Co.; Dr. Karas; W. A. Poucher, Yardley, who was visiting this country, and others.

Frazer V. Sinclair, BEAUTY FASHION and DRUG AND COSMETIC INDUSTRY, was Moderator of the meeting.

SEYMOUR A. LUBMAN

Named by Purdue Frederick

Seymour A. Lubman, formerly administrative assistant in sales, has been promoted to National field sales manager of the Purdue Frederick Co., according to Benjamin Schneider, president.

Monroe with Lederle Labs.

Dr. John F. Monroe has joined Lederle Laboratories division, American Cyanamid Co., as an assistant director of professional service.

Frykholm Moves to St. Louis

Arthur O. Frykholm, sales engineer, Economic Machinery Co., division of Geo. J. Meyer Manufacturing Co., has made his headquarters at the St. Louis office, 4378 Lindell Boulevard. Associated with Economic Machinery since 1910, Mr. Frykholm is a nationally known expert on automatic labeling.

He will serve users and prospective users of World equipment in Texas, Kentucky, Tennessee, Ohio, Georgia and Louisiana, as well as in the city of St. Louis.

ARTHUR O. FRYKHOLM

Hass to Receive Honor Scroll

Dr. Henry B. Hass, president of the Sugar Research Foundation, will receive the 1955 Honor Scroll of the New York Chapter of the American Institute of Chemists at the annual meeting on June 2 at the Hotel Commodore. He is best known for his work in aliphatic nitration but has also done extensive research in activated carbon, chlorination, fluorocarbons and compounds of pharmacological interest.

First open symposium of the American Society of Perfumers, Inc. which took place March 16. Frazer V. Sinclair, BEAUTY FASHION, was Moderator.

Wiedhopf, Named Bd. Chairman

J. S. Wiedhopf has been elected chairman of the board of Roure-Dupont, Inc., according to Jacques d'Aigremont, president. He recently retired as president of Parfums Ciro, Inc., in which capacity he had served since 1939. During a trip to Europe following his retirement he was induced to re-enter the fragrance field and became associated with Roure-Dupont.

Mr. Wiedhopf first entered the field in 1907, starting with the Alfred H. Smith Co. when Djer Kiss was in its infancy. He went into business with Guy T. Gibson in 1921 to distribute Caron Perfumes, and together they founded Parfums Ciro in 1923 in this country. He was one of the founders and the first president of the Fragrance Foundation, of which he remains a life director.

He was recently elected honorary treasurer for life of the Perfumery Importers Association.

J. S. WIEDHOPF

Twin Cities Chem. Elections

William J. Fenelon, Hilex Co., has been elected president of the Twin Cities Chemical and Allied Trades Association for the year 1955. Additional officers are: Clifford P. Barth, Merchants Chemical Co., vice-president; Ted A. Wamstad, Mallinckrodt Chemical Works, treasurer; and Norman P. Anderson, Hawkins Chemical Co., secretary.

Members of the board of directors are Sidney O. Lancaster, Diamond Alkali Co.; Arthur A. Hibbeler, retiring president, Monsanto Chemical Co.; John F. Chaney, Hazel Atlas Glass Co.; James F. Kerns, Columbia Southern Chemical Co. and John D. Schofield, Barrett division, Allied Chemical and Dye Corp.

Fougera Elections

Clifford H. Bradney has been elected vice-president, and Robert M. Post, secretary, of E. Fougera & Co., according to John V. Powers, president.

Mr. Bradney had previously been executive assistant to the president, in charge of sales and advertising, and will continue to have these responsibilities.

Mr. Post was formerly legal counsel to the board of directors.

CLIFFORD H. BRADNEY

Sinclair in Robin Pharm. Post

Ernest Sinclair has been appointed production manager of Robin Pharmacal Corp., according to Sidney Rich, president. The appointment was made necessary by greatly expanded facilities at Robin's plant for the manufacture and packaging of capsules and tablets for the drug industry.

He had formerly been with the Vitamin Corporation of America.

DR. OLINDO SECONDINI

Secondini with D & O

Dr. Olindo Secondini has joined the technical staff of Dodge & Olcott, Inc. He has researched and studied extensively in a number of fields, including drugs, botanicals, essential oils, aromatics, flavorings, oils, fats and waxes and has published 16 studies and 32 different articles.

Fragrance Found. Elections

Jean Despres, Coty, Inc., was elected president of the Fragrance Foundation at the sixth annual convention, Hotel Ambassador, March 24. Bernard d'Escayrac, Guerlain has become vice-president, while Pierre Harang, Houbigant Sales Corp., was re-elected vice-president, and A. L. van Ameringen of van Ameringen - Haebler, re - elected secretary with Frazer V. Sinclair, *Beauty Fashion*, being re-elected treasurer.

Newly elected officers of Twin Cities Chemical & Allied Trades Ass'n. Left to right, seated: Ted A. Wamstad, Mallinckrodt Chemical Works, treasurer; Clifford P. Barth, Merchants Chemical Co., vice-president; William J. Fenelon, Hilex Co., president; and Norman P. Anderson, Hawkins Chemical Co., secretary. Standing, left to right, are directors: Sidney O. Lancaster, Diamond Alkali Co.; Arthur A. Hibbeler, retiring president, Monsanto Chemical Co.; John F. Chaney, Hazel Atlas Glass Co.; James F. Kerns, Columbia Southern Chemical Co.; and John D. Schofield, Barrett division (not in picture).

Sheffield Tubes

S. C. Johnson & Son's new Blem removes furniture blemishes . . . rings, burns and scratches . . . by actually re-compounding the finish the way a professional refinisher does.

A get-acquainted tube of Blem is now being offered free to purchasers of Johnson's Pride — truly a potent combination to beautify America's furniture!

Smart, sturdy, convenient, collapsible metal tubes — **Sheffield Process Tubes** — make the ideal choice for more effective merchandising, sampling and **selling**!

Try Sheffield on **your** next order.

JOHNSON'S BLEM®

THE SHEFFIELD TUBE

Factory and Home Offices: New London, Conn., Sales Offices: New York, Chicago, Los Angeles

the case for quality

Consumer acceptance permits no compromise with quality. That's why at Plume & Atwood all lipstick containers, whether standard type or your own distinctive design, are made to one undeviating specification — QUALITY.

P & A Standard Containers

STYLES: Full Dome Top
Semi-Dome Top
Flat Top

TYPES: Free Wheeling, with .477 or .500 cups
Swivel, with .477 or .500 cups
Push-Up, with .477 or .500 cups

FINISHES: Polished and lacquered,
Embossed, Enameled,
Banded, Imprinted, etc.

Call or write us for all your requirements. We have the experience and equipment unequalled in the trade.

We're moving March 30th to our NEW million-dollar plant in THOMASTON, Conn.!

P&A

A PANDA PRODUCT

THE PLUME & ATWOOD MFG. CO.

THOMASTON, CONN. N. Y. Office: 220 Broadway

Stock, Squibb Ass't Gen. Mgr.

Fred J. Stock has been named assistant general manager of the E. R. Squibb & Sons division of the Olin-Mathieson Chemical Co. Mr. Stock, who was head of a recently formed Squibb Chemical division, has been replaced there by Francis Reid. The division has now become a Squibb department.

Anchor Hocking Appoints

W. B. Snell, Jr., has been elected vice-president in charge of manufacturing, and Gordon W. Herrold, vice-president in charge of research and engineering, of Anchor Hocking Glass Corp., according to Wm. V. Fisher, president.

JAMES E. ZINK

Appointed by Lilly

John J. O'Keefe has been appointed manager of animal products purchases, Eli Lilly & Co., and James E. Zink has become manager of the newly established equipment and supplies purchases department.

Pfizer Fermentation Exhibit

Chas. Pfizer & Co. officially opened its display on fermentation chemistry on February 28 in the United States Department of Commerce Building, Washington, D. C. This exhibit, sponsored by the Patent Office, shows the technological advances and contributions made by inventors and industries in the chemical field under the American Patent System.

John McKeen, Pfizer president; J. H. Kane, vice-president in charge of research and development; and R. C. Porter, secretary, were on hand, together with officials of other participating companies to hear remarks by Secretary of Commerce Sinclair Weeks and U. S. Patent Commissioner Robert C. Watson.

The exhibit was open daily to the public from February 28 through March 25.

Lesh, Armour Research Director

Dr. James B. Lesh, formerly assistant director of the process development department, has been appointed director of research by the Armour Laboratories. He succeeds Dr. E. E. Hays who resigned.

Ohart Appointed by G.E.

Theodore C. Ohart has been appointed manager—marketing of General Electric Company's silicone products department, according to Dr. Charles E. Reed, general manager of that department. He has been with the company since 1929.

JOHN J. O'KEEFE

Warner-Chilcott Expands

Warner - Chilcott Laboratories has broken ground for a new building to expand its research facilities. This building will quadruple the space now available for the division's various research projects, according to E. Roth Janes, vice-president, and Dr. George H. Mangun, director of research.

Shulton Buys Maschmeijer

Shulton, Inc. has acquired the major assets of A. Maschmeijer, Jr., Inc., according to George L. Schultz, president of Shulton. The business will be operated as the A. Maschmeijer, Jr., division of Shulton, Inc. and represents a further expansion by Shulton, Inc. into the fine chemicals pharmaceutical fields.

The Maschmeijer division will continue to be operated in Newark under the same personnel. Aromatic sales will be handled from offices at 630 Fifth Ave., New York.

Pharmaceutical products will continue to be handled through Gane & Ingram, Inc. at 43 West 16th St., New York.

A.P.C. Appointments

Leo Mandel has been appointed assistant to the sales manager, American Pharmaceutical Co., and will be directly responsible for market analysis and new product study. He was formerly with the Ives-Cameron Co.

Henry F. Hein, Sr., has been appointed sales representative for Central New York and Central Pennsylvania; Earl Kaplan, for Western New York with headquarters in Buffalo; and Elmer L. White, for North Texas, with headquarters in Dallas.

Lederle Appointments

L. C. Duncan has been appointed general manager of American Cyanamid Co., Lederle Laboratories division, and V. E. Atkins, general manager of the organic chemicals division, according to K. C. Towe, president.

D. M. Benjamin, former executive director of Lederle, has become assistant general manager.

Secretary of Commerce Sinclair Weeks, left, shaking hands with John E. McKeen, president of Chas. Pfizer & Co. Commissioner of Patents Robert C. Watson, second from left; R. C. Porter, Pfizer legal counsel; and Jasper Kane, vice-president in charge of research and development, right, look on in front of Pfizer exhibit on fermentation chemistry at the Department of Commerce.

Created to meet the exacting requirements of your product, propellent and container

MM&R fragrances for aerosols

first

Ever since working with the largest supplier of aerosol-dispensed insecticides to the United States Government, during the Second World War, MM&R has helped manufacturers in many industries to solve highly specialized perfuming problems in the rapidly expanding aerosol field.

foremost

Fortified with unrivaled experience in the development of perfume oils for the cosmetic, pharmaceutical, insecticide, soap, sanitary and other industries, MM&R is uniquely equipped to aid you in selecting a sales-stimulating fragrance to meet every manufacturing requirement.

Write in strict confidence to - MM&R Technical Consulting Division (Aerosols). *There is no substitute for experience.*

MAGNUS, MABEE & REYNARD, INC.

Since 1895 . . . The World's Most Famous Supplier of Essential Oils

16 DESBROSSES STREET, NEW YORK 13, N. Y., U. S. A.
221 NORTH LASALLE STREET, CHICAGO 1, ILLINOIS

EDMUND R. BECKWITH, JR.

E. ROTH JAMES

J. S. HEWITT

Named V.P., Warner-Chilcott

Edmund R. Beckwith, Jr., general sales manager, and E. Roth Janes, director of production, both of Warner-Chilcott Laboratories, have been appointed vice-presidents of the company, according to Alfred E. Driscoll, president of Warner-Hudnut.

Norwich Executive Changes

Everett L. Zimmermann, with Norwich Pharmacal Co. since 1932, has been appointed manager of Norwich sales.

Gabriel Gever, acting chief of the division of chemistry, has become chief of that division, according to Dr. W. B. Stillman, director of research at Norwich.

A. C. Fernandez has been named director of a newly established office of inventory management, according to Thomas J. Eaton, vice-president.

Promoted by Vick Chemical

Frank D. Davies and Robert M. Fenner have been named product managers in the Vick Products division, Vick Chemical Co., according to Kirby Peake, president. Mr. Davies is product manager for Vicks Medi-trating Throat Lozenges and Vicks Inhalers. Mr. Fenner is product manager for Vicks Medicated Cough Drops.

MM&R Cocktail Party

Magnus, Mabee & Reynard, Inc. held a cocktail party and buffet for members of the Druggists' Supply Corp. and other friends and customers on March 5 at the Starlight Roof, Waldorf-Astoria. The affair was attended by more than 800 guests.

Percy C. Magnus, president of the company, stated that the event, the 15th of its kind sponsored by the company, was especially important this year because it took place during the Diamond Jubilee of MM&R which was founded in 1895.

With Givaudan 25 Years

Four members of the sales staff of Givaudan-Delawanna, Inc. and its associate companies, Givaudan Flavors Inc., and Sindar Corp. recently celebrated their 25th anniversary with the company. These men were Benjamin S. Cottle, Givaudan's representative on the West Coast; Lyle L. Lowden who represents the company in the New York area; Walter Tomzak, representative of Givaudan Flavors in the Metropolitan area; and E. R. van Liew, manager of Givaudan's specialties division.

Each of the four men received a gold watch during the banquet, ending the four - day sales conference on February 18.

Calvert Mills Named Agent

The Calvert Mills Co. has been named exclusive agent for Tong Hsing Hong, Keelung, and will handle that firm's citronella, camphor, patchouli and Ho oils.

Heads Anahist Co.

J. S. Hewitt has been elected president of the Anahist Co., according to William S. Lasdon, president of the parent company, Nepera Chemical Co. Mrs. Lasdon will continue as chairman of the board of Anahist.

Mr. Hewitt has been executive vice-president of Anahist since 1950. Prior to that he had been vice-president of the Andrew Jergens Co. for many years.

Lovell with McNeil

Douglas G. Lovell, Jr. has been appointed manager of the market research department, McNeil Laboratories. He has worked as a market analyst in the ethical drug industry for the past four years.

Heads Pitman-Moore Research

Dr. Harold A. Nash, formerly head of Pitman-Moore's bio-chemistry section, has been named director of chemical research, according to Dr. C. A. Bunde, research director.

Magnus, Mabee & Reynard cocktail party and buffet held at Waldorf-Astoria, New York, on March 5, on behalf of members of the Druggists' Supply Corp. and other friends and customers. Over 800 guests were present.

Perfume problems abound
when it comes to **aerosol packaging . . .**

Consider

compatibility of perfume with propellent
solubility in propellent
stability
corrosion of metal cans
corrosion of valve parts
changes in balance in perfume odor on dispersion in spray
are a few of the
difficulties
to be faced.

Be sure the perfume compound you select has been thoroughly tested in propellents.

●

Write us for assistance in perfuming your aerosol packaged product. Our experienced and fully equipped aerosol laboratory can suggest the right perfume and if desired will test-run it for you in your own product.

●

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& co., inc.

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Rheinstrom Becomes Active

Robert I. Rheinstrom, well known in this industry as the original developer, manufacturer, and marketer of a hormone skin cream containing estrogens, is again becoming active in the cosmetic industry. Mr. Rheinstrom will be remembered as the man who established Hirestra Laboratories eighteen years ago to market the first hormone cream under the trade name of Endocreme. It will be recalled that a short while after the product was on the market, it was the subject of a sharp attack by the American Medical Association which received nation-wide attention in the daily press. This attack just about wrecked the new business which was struggling to get on its feet.

Mr. Rheinstrom then undertook to sue the American Medical Association and Dr. Morris Fishbein, who was editor of the Journal of the American Association. Mr. Rheinstrom forced the American Medical Association to back away from their position and the case was settled with Mr. Rheinstrom getting what he wanted in the settlement agreement. Following this settlement, Mr. Rheinstrom returned to his task of building up the sales of Endocreme.

As time went on, various states and cities undertook to ban the sale of this type of hormone cream, even though the Federal Food and Drug Administration never at any time disapproved marketing of the product. State laws prohibiting the sale of the hormone creams were proposed and even passed. But due to Mr. Rheinstrom's efforts, none of these laws remained long on the statute books. When Mr. Rheinstrom was fighting some of these proposed or enacted laws, he had several competitors in the product which he had originated. He, therefore, called on his competitors to join with him in fighting these laws. His competitors did join with him and presented a united front strictly on a scientific basis to defeat these laws.

At a later date, Mr. Rheinstrom sold out his interest in Hirestra Laboratories, but remained with the company for some years in a consulting capacity. Eventually he severed all association with the company.

Now Mr. Rheinstrom is again becoming active in promoting new products which he has investigated thoroughly and found to be meritorious. Through his associations with scientists, doctors, bankers, lawyers, and others, Mr. Rheinstrom is in a position to thoroughly evaluate any proposed product and to arrange sufficient financial backing so that the product can be successfully launched if it warrants marketing.

Just as when he introduced Endocreme, Mr. Rheinstrom is now planning to launch new cosmetic products containing an ingredient that has never been used before. This ingredient, says Mr. Rheinstrom, has been tested for several years by renowned doctors, and the results of these tests have been submitted to the Food and Drug Administration and there is no objection. One of the things that this ingredient will make possible, he says, is a hair lotion that will help reduce the falling of hair. There is no cosmetic preparation in use to date, he continues, that has the natural receptive power to enter the various layers of tissue that compose the skin, and so rapidly spread its nourishing and regenerating effects on living tissue so thoroughly and so gently, as this ingredient is capable of doing. It has the unique capacity of being highly active and still retaining its stability, which means lots of action without the slightest tendency to decompose.

This makes it extremely desirable in more ways than one, says Mr. Rheinstrom, who points out that if it were combined with a skin cream containing a hormone, it would carry the hormone through all the layers to the very underlying source and thus enable the hormone to stimulate those areas concerned with regeneration and growth of new cells. Unlike the oils and fatty acids now used in cosmetics, he says, the stability of this new discovery enables it to carry its nourishing and stimulating action over a much longer period of time, far beyond anything used heretofore. This also means that it prevents rancidity in itself or in anything with which it is combined.

It is important to note, according to Mr. Rheinstrom, that this new compound not only spreads itself throughout the nine layers of tissue that compose the skin, but it enters the blood stream and continues its physiological action of feeding and stimulating new tissue growth.

Since it is a highly active substance, five or ten per cent of this ingredient per cosmetic ounce is entirely sufficient to produce most effective results, and ten to twenty cents the added cost, says Mr. Rheinstrom.

Named by J. H. Moore

A. C. Reeves Hicks has been appointed assistant sales manager of the John Hudson Moore Co.

Pond's-Chesebrough Merger

The directors of both companies have approved a merger of Chesebrough Manufacturing Co. and Pond's Extract Co., according to Arthur B. Richardson and Lloyd V. Young, presidents of the respective firms.

Under the proposed plan, Pond's Extract Co., the Delaware Corporation, would be merged into Chesebrough and the stockholders of Pond's Delaware would receive 225,000 shares of Chesebrough's stock.

Prior to the merger, according to the plan, Pond's Delaware will acquire Pond's Extract Co. Ltd. (an English corporation) and Pond's Extract Co. of Canada Ltd. It will also acquire the assets, other than cash, of Pond's Extract Company International, Ltd., which will then be liquidated. None of these companies is now owned by Pond's Delaware.

The Pond's management and personnel will become an integral part of the combined company and the directors of Chesebrough and Pond's Delaware will constitute its board. The names of the principal executive officers will be announced at a later date.

HIF Elections

W. L. Dempsey, president of the Sharp & Dohme division of Merck & Co., has been elected chairman of the board of directors of Health Information Foundation, succeeding John G. Searle, president of G. D. Searle & Co. Mr. Searle has headed the board since its organization in 1949.

Additional officers elected are George Bugbee, president, Health Information Foundation; S. Barksdale Penick, Jr., president, S. B. Penick & Co., treasurer; and William A. Feirer, vice-president, E. R. Squibb & Sons, secretary.

The following were elected vice-presidents: James Hill, Jr., president, Sterling Drug Co.; Mr. Searle; George F. Smith, president, Johnson & Johnson; George Van Gorder, president, McKesson & Robbins; and Ernest H. Volwiler, president, Abbott Laboratories.

Pneumatic Selling Jagenberg Labeling Machines

Pneumatic Scale Corp., Ltd. is now selling and servicing the Jagenberg Lightning I and Lightning II continuous motion labeling machines, according to arrangements recently completed in Dusseldorf, Germany.

The labelers are designed for automatic application of body labels to round bottles and jars.

Deodorants with G-11®

(Brand of Hexachlorophene)

remove the cause of body odor

Soaps, detergents, creams, colognes, sticks and lotions containing G-11 are making dramatic sales increases because they combat the fundamental cause of body odor.

Body odor, particularly underarm odor, is caused by the action of skin bacteria on perspiration. Research has shown fresh perspiration to be odorless until it is contaminated with skin bacteria. G-11 combats these bacteria and thus removes the basic cause of the odor.

G-11 remains on the skin, even from soaps which are thoroughly rinsed off with water. Thus the deodorant action persists for days. Persons who have used deodorants with G-11 for three and four years show no immunity to their action.

Over seventy scientific articles, mostly by independent researchers, have been published over the last ten years attesting to the antibacterial and deodorant performance of G-11.

In addition, G-11 is not perceptible while on the skin, has no harmful effect on clothing, is compatible with perfumes, is readily soluble in soaps and cosmetic formulations, and is non-staining and non-irritating.

Write now for technical bulletins and formulas for G-11.

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HENRY W. GADSDEN

NORBETT A. WITT

DR. JOHN W. HEIN

Gadsden, V.P., Merck

Henry W. Gadsden has been elected administrative vice-president of Merck & Co., Inc., according to James J. Kerrigan, president. He will assist the president in a staff capacity and will direct the activities of the company's legal, patent, public relations and secretary's departments. He will also coordinate personnel activities and perform special assignments.

Mr. Gadsden succeeds John T. Connor as administrative vice-president, Mr. Connor having been advanced to vice-president and general manager of the company's international division.

SKF Honors 55 Veterans

Smith, Kline & French Laboratories honored 55 employees on March 10 at the firm's third annual service award dinner in the Warwick Hotel, Philadelphia. All of these employees received awards this year for 10 or more years of service to the company.

C. Mahlon Kline, chairman of the board, spoke extemporaneously to the group, after which there was an informal cocktail hour followed by dinner and entertainment.

Francis Boyer, president of SKF Laboratories was honored for 35 years of service, while Miles Valentine, vice-president of SKF Inter-American Corp. and SKF International Co., both subsidiaries of the firm, celebrated his 30th year of service.

White Promoted by Bristol Labs.

John White has been appointed to a newly created position, director of sales administration, by Bristol Laboratories Inc., according to R. A. Anderson, vice-president and director of marketing. He joined the company in 1949 as head of the tabulating department and was made assistant to the comptroller in 1952.

Witt, V.P., Noxzema Chem.

Norbett A. Witt has been appointed vice-president in charge of sales of the Noxzema Chemical Co. and will report directly to the president. He will share complete responsibility for all marketing, sales promotion and merchandising activities—and for coordinating them with advertising.

R. B. Yingling has relinquished his responsibilities as sales manager but will continue to contact for Noxzema certain accounts. He will be available for consultation until the end of 1955 at which time he will begin a retirement arrangement with the company.

Vierno in Thompson Post

Ralph A. Vierno has been appointed manager of the export division, Marvin R. Thompson, Inc., according to E. M. Tarplin, executive vice - president. Offices will be located at O. C. Prescott, exporters, 95 Liberty St., New York 6, N. Y.

Named Ames Med. Director

Dr. Norman L. Heminway has been appointed medical director of Ames Co., Inc. He had formerly been associate director and administrative assistant to the director, division of clinical research, Schering Corp.

Consulting Chemists Meet

The Association of Consulting Chemists and Chemical Engineers held an informal luncheon meeting at the Chemists' Club on March 25. Richard L. Moore, director of public relations of Foster D. Snell, Inc., gave an informal talk on "The Intrinsic Values of Professional Advertising."

Coulter, V.P., Taylor Labs.

Thomas H. Coulter, former vice-president and board member of J. B. Roerig & Co., has been appointed executive vice-president and director of Taylor Laboratories, Inc.

Hein in Colgate Post

Dr. John W. Hein, formerly chairman of the Department of Dentistry and Dental Research at the University of Rochester, has joined the Colgate-Palmolive Co. to organize and head a new activity, according to Dr. Thomas H. Vaughn, vice-president of the research and development department.

Hugo Mock

Hugo Mock, a partner in the law firm of Mock & Blum, and general counsel of the Toilet Goods Association, collapsed and died at the annual meeting of the Fragrance Foundaion on March 24 while his report to that organization was being presented. He was 77 years old. Mr. Mock was associated with the T.G.A. from its inception and served as general counsel until his death. He also served in the same capacity for the Perfumery Importers Association and the Fragrance Foundation.

A specialist in trade mark law, he was widely known through the toilet goods industry, both here and abroad, and was considered in the legal profession as one of the foremost experts in his particular branch of the law in the United States.

He is survived by his wife, Hanna, and a brother, Emil.

Sir Alexander Fleming

Sir Alexander Fleming, famed as discoverer of penicillin, died March 11 in London at the age of 73. He retired last November from the directorship of the Wright-Fleming Institute of Microbiology at St. Mary's Hospital but had continued work in research.

G. Barret Moxley

G. Barret Moxley, president of Kiefer-Stewart Drug Co. for 33 years, died on March 15 at his home in Indianapolis at the age of 79.

By Far . . .

the largest number of Perfume and Fragrance advertisers ever to use one magazine are now telling their story in BEAUTY FASHION. Read BEAUTY FASHION each issue for the fascinating story these perfume advertisements tell.

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These are **distilled acetylated monoglycerides.** They are going to affect the cosmetic business.

Do you make: *lip ice pomade • baby oil • hair tonic • sun tan lotion • electric shaving lotion • spray deodorant • powder foundation • vanishing cream • medicated cream • non-pigmented foundation cream • hand cream • hand lotion • shampoo?*

If you do, you ought not delay too long about sending for a sample of a new cosmetic material called *Myvacet Distilled Acetylated Monoglycerides* that is just being introduced to the industry. There has never been anything quite like it.* It is made from common fats or oils, but it is strangely non-greasy.

Myvacet Distilled Acetylated Monoglycerides, Type 5-00, a white solid at room temperature, provides a way of accomplishing the job ordinarily assigned to glycerol esters of stearic acid without making the product in any way greasy. It is very easily emulsified. The absence of greasiness and a great gain in flexibility make *Type 5-00* highly interesting for many cosmetic formulation problems.

Type 9-40 is a clear, practically colorless liquid at room temperature. It is completely miscible with castor oil and with alcohol-water mixtures containing as much as 20% water. It does what isopropyl myristate and isopropyl palmitate do in many preparations but does it without contributing greasiness.

There are many things you can find out about *Myvacet Distilled Acetylated Monoglycerides* by testing samples in your own formulas. How about letting us send you a data sheet and samples? Write ***Distillation Products Industries,*** Rochester 3, N. Y. Sales offices: New York, Chicago, and Memphis • W. M. Gillies and Company, Los Angeles, Portland, and San Francisco • Charles Albert Smith Limited, Montreal and Toronto.

**Acetyls replace in varying degrees the hydroxyl groups of monostearin and other monoesters of glycerine. The product is purified in DPi's unique molecular stills.*

distillers of monoglycerides made from natural fats and oils

DPi

Also . . . vitamins A and E . . . some 3500 Eastman Organic Chemicals for science and industry.

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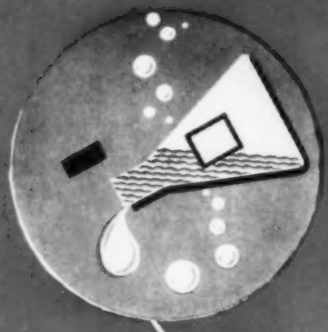
WA-Paste, WAQ, WA-Special, smooth creamy texture, rich pearl lustre. For paste or liquid creme shampoos, rubber processing, textile cleaners, etc.



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Imagine the tragedy in years past of corneal grafts spoiling after a few days storage—leaving none available when needed for surgery.

The future is more promising. Even stockpiling is a possibility, because scientists have found a way to preserve grafting material indefinitely, without affecting sight-restoring powers.

The new technique, now being experimentally used in hospitals, relies on subzero temperatures—and saline solutions of *Glycerine*.

In medicine and pharmaceuticals, as well as many other fields, Glycerine's unique balance of properties continues to open new doors to progress. For tomorrow's surge of new specialties . . . in formulations and reactions yet unknown. *Nothing takes the place of Glycerine.*

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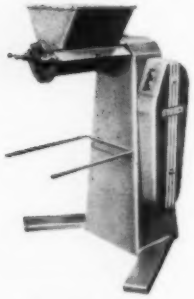
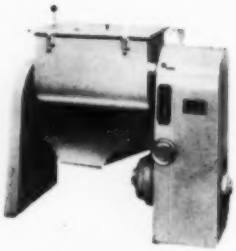
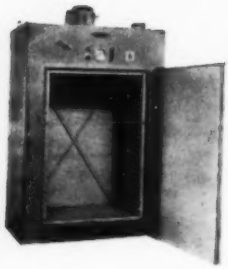
STOKES PHARMACEUTICAL AUXILIARIES



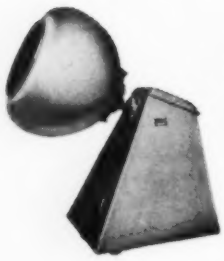
The Stokes Oscillating Granulator breaks up moist aggregates for drying, and dried aggregates for final compression to tablets.



The Stokes Mixer blends basic tablet materials or mixes lubricating powders and flavoring oils with granulations.



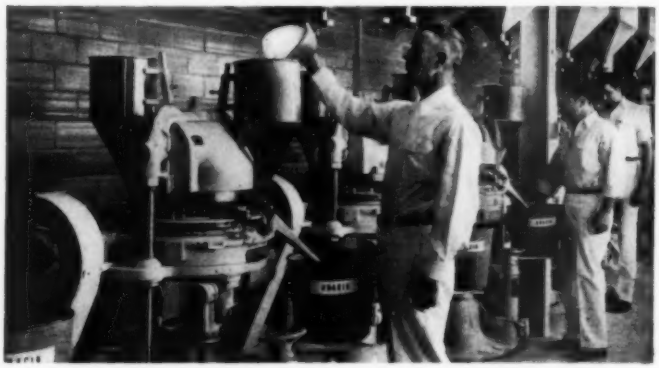
Stokes Drying Closets with carefully channeled hot air, are used for drying granulations, salts, rouge and other materials. Vacuum shelf dryers and vacuum freeze-dryers are also available for handling products sensitive to both heat and oxidation.



Stainless steel or spun copper coating pans are available in 16- to 42-inch diameter with capacities of 15,500 to 270,000 5-grain tablets. Polishing heads are made with removable canvas drums, 28 or 36 inches in diameter, and are interchangeable with metal coating pans.

Stokes Tabletting Presses Assure Uniform High Quality In Manufacture of Anacin

At the huge Whitehall Pharmacal Company plant in Elkhart, Indiana, nine Stokes BB-2 tabletting presses are devoted solely to the production of Anacin tablets. When needed, eight more BB-2 presses, normally used to turn out other Whitehall products, can be called into service to boost production of this widely used pain-reliever. Finished tablets have uniform weight, density and attractive appearance.



Part of the battery of Stokes presses used at Whitehall Pharmacal Co. to produce Anacin Tablets.

Stokes pharmaceutical equipment offers manufacturers the advantages of high production, clean operation and reliability; all factors vital to economy in every stage of pharmaceutical manufacture.

Consult with Stokes on your next pharmaceutical problem. Our engineering experience embraces all phases of pharmaceutical processing, punch and die design, tablet production and plant layout. Write for a new catalog, No. 640, describing the Stokes Laboratory facilities and for information on the complete line of Stokes Pharmaceutical Equipment, Catalog No. 600.

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Management Forum

by Francis Chilson

INDUSTRIAL CONSULTANT

Letter from the Comptroller

To All Department Heads:

Now that tax affairs have been cleared up it is time to review our budget performance against estimates for last year. It is to be hoped that all department heads will give undivided attention to preventing in the future the serious over-expenditures that this study has revealed:—

Item: Toilet tissue and paper towels.

Against a budget of $0.211745 per person per annum we spent $0.267351—an increase of 26.35 per cent—representing an over-expenditure for the year for the entire plant of $13.26. Obviously such waste is unnecessary and is caused by faulty supervision. It is suggested that employees be urged to attend the necessities of nature before coming to work. In this way use of toilet tissue and towels will be minimized and employees will save company time by not using facilities during working hours.

It is further suggested that although the law forces us to maintain a certain number of toilets there is no apparent reason why we should not install pay booths. It is obvious that if employees have to pay to use the toilet facilities they won't use them so often and the company will save the time normally lost through this procedure. And the money derived from the pay booths will offset the cost of the paper tissue and towels. It is recommended that a pay booth and a pay urinal be installed in the toilet near the reception room so that we can derive some revenue from the use of this facility by traveling salesmen. In any case, visitors to the plant should never be asked to make use of company toilet facilities since this results in a loss of toilet tissue and paper towels. It should be obvious that if people call to sell something they should have the decency to go to the john before they visit us.

Item: Paper cups.

Against a budget of $0.097354 per person per annum we spent $0.157983—an increase of 62.27 per cent!—representing an increased expenditure for the year for the entire plant of $21.86. I should like to call to your attention that while this increase in the consumption of paper cups is serious, it is not nearly as serious as the time lost by employees in walking to the water cooler. It is obvious that the number of paper cups used is a direct index of the number of trips made to the water coolers and since the increase is staggering percentagewise, it is clear that our employees are being allowed by their supervisors to waste time at the water coolers which should be devoted to productive work. To stop this appalling loss it is suggested that the cup dispensers at the coolers be eliminated and that each employee be given weekly a definite number of cups for his or her personal use. By deducting the number of unused cups left over each week it will be possible to determine how many times each employee visited a water cooler. It is suggested further that a time study be made to determine how much time each employee wastes walking to and from the coolers and how much time each one takes to drink. This must be done on an individual basis because coolers are located at varying distances from each employee's workplace and the speed with which they walk will depend upon age and physical condition—also their degree of laziness. It is suggested that a comparison of these walk-times will lead to the selection of the fastest walkers and therefore the most energetic employees. Education should begin at once to encourage employees to go on a salt free diet. It is well known that salt increases the desire for water, hence, the desire for water causes them to waste company time going to the water coolers and also to waste paper cups. It must be remembered that in addition to lost time and paper cups the company also loses purchased water which at present

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and profit by more than two generations of liquid filling experience. The U.S. line covers a wide range of liquid filling machines for automatic, semi-automatic and hand-filling operations. With this wide choice of Fillers, you need not compromise your production to fit a machine; instead, basic U.S. machines are custom-engineered to fit your specific production . . . and usually at a saving.

MODEL B-49 STRAIGHTLINE VACUUM FILLER for liquids and semi-liquids. Most automatic one-operator multiple filler. Operates with or without discharge conveyor. Filling proceeds automatically while empties are loaded. Easy operating lever activates container feed and discharge; otherwise operation is completely automatic. Adjustable for AGST to gallon size finishes. A dependable machine where filling cost is a factor. Send for Bulletin B-49.

E-Z AIR CLEANER— Popular companion to semi-automatic fillers for products that require a clean, dry container. Connects to air supply to blow carton lint and dust out of new containers. Built-in air compressor optional. Handles any size container. Cleans 2 containers at a time. Capacity from 20 to 40 per minute. Send for E-Z Bulletin.

MODEL B-2 VACUUM FILLER provides efficient continuous production, filling two containers at a time. Handles a wide variety of liquids and semi-liquids. Has automatic product supply; vacuum is adjustable and flow regulated for accurate, clean filling. For containers up to 4⅛" dia. round or rectangular. Send for Bulletin B-2.

THE U. S. SIPHON FILLER is a highly efficient machine. Stainless steel filling tubes and glass lined tank. Handles all types liquids; all containers. Fills without overflow or spillage. Send for the Siphon Bulletin.

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rates figures out about two mills per cubic foot. Then there is the cost of operating and maintaining the water coolers and the depreciation on same. When all collateral losses are added to the loss in paper cups will be seen that this leak in company profits is serious and should be stopped. That's what budgets are for.

Item: Cafeteria expense.

Against a budgets loss of $5,000.00 for operating the cafeteria for the year we actually lost $5,217.13, representing a loss of 4.34 per cent. When the cafeteria was established the management desired only to recover the actual cost of the food and the labor involved in running the cafeteria. The budgeted deficit represents the cost of depreciation, space rent etc. Analysis of the overexpenditure reveals that executives have fallen into the wasteful habit of inviting salesmen and other company guests to have lunch in the cafeteria at company expense. This practice should be stopped. Visitors should have the decency not to call around meal time and, if they are salesmen, they should take our executives out to lunch. In this way we can save the free coffee and bread our executives normally would consume. It must be pointed out that even if we entertain salesmen at our expense they undoubtedly will charge for the lunches on their own expense sheets. Since this is invariably the way with salesmen, we should keep them from lying by going to lunch with them at their expense thus killing two birds with one stone. We save money and the salesmen don't lie.

Item: Telephone expense.

We exceeded our budget for last year by $961.22 representing a percentage increases of 3.271 per cent. Analysis of the account reveals that employees are making too many local calls without paying for them. In the future the switchboard operators will monitor all calls to make sure they relate to business affairs. Employees, including executives and especially visitors, should use the pay stations in the reception room for personal calls. When salesmen or visitors want to call their home offices the charges should be reversed. It is called to your attention that all calls should be limited and brief. Even on local calls there is a surcharge above a certain number and after a certain length of time.

Item: Postage.

Last year by actual count we sent out 316,217 pieces of mail calling for three cent stamps. The postage meter registered 316,248 stamps issued. This means obviously that 31 pieces of personal mail was run through the stamp machine after the regular mail was counted. While the cost was only 93c it is obvious that a much greater loss was sustained by the company through the substantial loss of time of those employees who wrote personal letters on company time. In addition to this loss these employees undoubtedly used company stationery as well, thus adding to the loss. Visitors and outsiders temporarily working for the company often drop personal mail in the baskets. In all cases they should be requested to pay for the postage used.

Conclusion:

At our next general budget meeting we should discuss improving and expanding our records so that we can pin point such losses in greater detail. In closing I should like to point out that as a result of the new record keeping system, which we installed in the factory last year, budgeted direct labor was underabsorbed by $67,345.27 and budgeted factory overhead was underabsorbed by $167,378.92. This substantial contribution to profits was made possible by adequate, detailed records and careful budgeting.

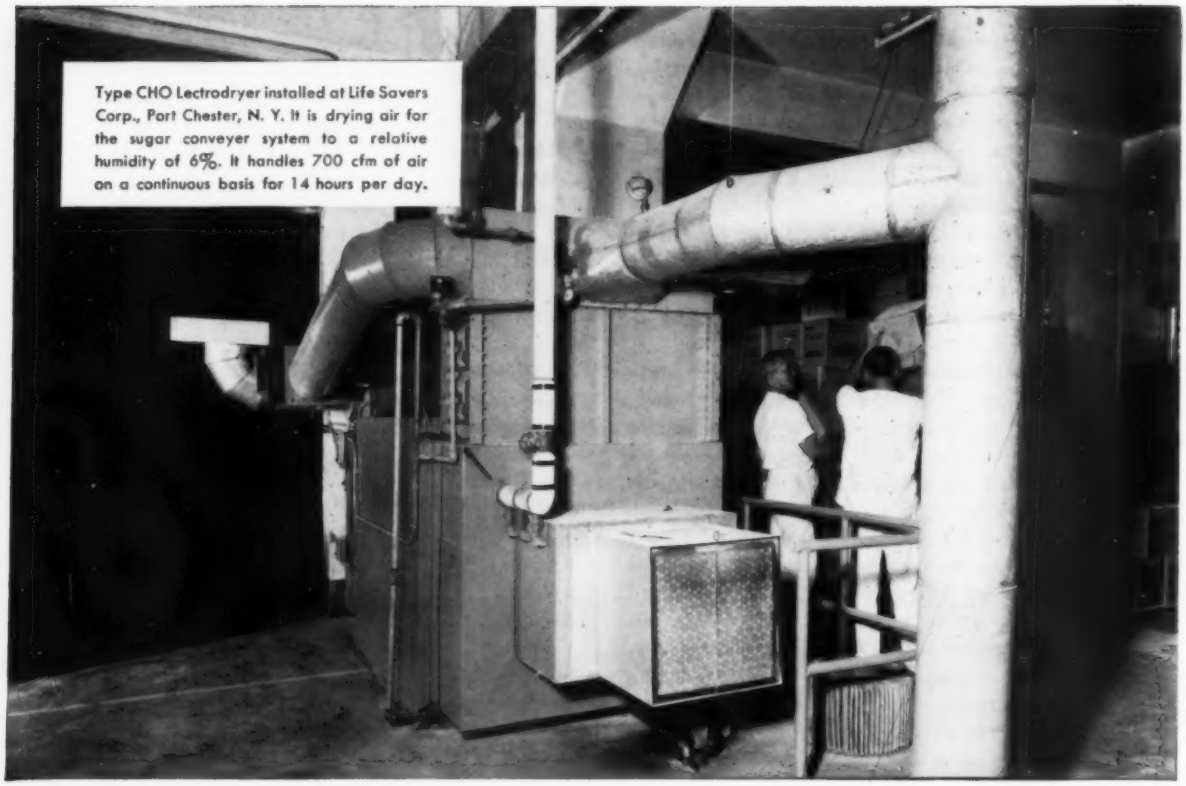
Rapisonic Homogenizer

Manufactured by Ultrasonics Ltd., Otley, Yorkshire, England, the Rapisonic Homogenizer is being hailed as a revolutionary development for homogenization and dispersion processes in many industries. The J. H. Day Company, Inc., Cincinnati, Ohio, is the exclusive sales and service depot for the Rapisonic Homogenizer in the United States.

The Rapisonic Homogenizer is a compact, portable device that produces ultrasonic waves to disperse emulsions into microscopic particle sizes down to 1 micron. This is the practical result of many years of careful research to find an efficient method of producing ultrasonic waves by mechanical means, and today it is recognized as the most advanced machine of its kind.

High in speed and efficiency it can homogenize from 300 to 420 gallons per hour at very low operating cost. Less power is consumed than with conventional apparatus because of the Homogenizer's ratio of high output to low horsepower.

In operation, the Homogenizer can be used in a recirculating manner or to transfer the emulsified material to another kettle. When the unit is clamped to the side of a vessel two stainless steel intake and output lines extend into the emulsion. A two-horsepower motor drives a gear pump which draws the fluid up the intake line by vacuum and delivers the material to the nozzle at pressures from 150 to 250 psi. The nozzle is contained in a resonant bell where homogenization actually takes place. The fluid leaves the nozzle at approximately 30,000 psi and strikes a small blade that vibrates at its own frequency, about 22,000 cps. This high-frequency vibration produces continuous cavitation and violent molecular acceleration; in effect, countless minute explosions take place to produce the finely dispersed particles of the homogenized emulsion. The resonant bell is specially shaped to concentrate and disperse the vibrations equally through the medium, and to insure that the velocity of the jet is maintained whether the vibrating element is submerged or above the level of the liquid in the vessel.



Type CHO Lectrodryer installed at Life Savers Corp., Port Chester, N. Y. It is drying air for the sugar conveyer system to a relative humidity of 6%. It handles 700 cfm of air on a continuous basis for 14 hours per day.

LIFE SAVERS find . . . "drying a must in handling sugar"

"Before our Lectrodryer* was put into service, we had constant trouble with sugar loading up with moisture and jamming the stainless steel conveyer pipes," says Mr. J. H. Ford, Plant Engineer at Life Savers Corp.

Now conveyer air feeds through the Lectrodryer where it is dried to 6% relative humidity. Such dry air delivers the sugar dry, regardless of outside weather.

This same protection can be applied to any moisture-absorbing substance. Surround it with sufficient dryness to keep it dry and workable in storage, processing, conveying, packaging, etc. There are Lectrodryers serving all of these needs. These machines can reduce dewpoints in air and other gases to as low as −100° F . . . even at pressures as high as 6000 psi.

Write for *Because Moisture Isn't Pink*. This free booklet describes Lectrodryers and tells how many industries are using them to keep air, gases and organic liquids dry. Pittsburgh Lectrodryer Corporation, 309 32nd Street, Pittsburgh 30, Pennsylvania.

In England: Birlec, Limited, Tyburn Road, Erdington, Birmingham.
In France: Stein et Roubaix, 24 Rue Erlanger, Paris XVI.
In Belgium: S. A. Belge Stein et Roubaix, 320 Rue du Moulin, Bressoux-Liege.

LECTRODRYERS DRY WITH ACTIVATED ALUMINAS

LECTRODRYER

*REGISTERED TRADEMARK U. S. PAT. OFF.

An outstanding advantage of this device is that ultrafine dispersions can be produced with less emulsificants, or in some cases, no emulsificants. This eliminates large quantities of undesirable agents in the finished product. Even without emulsificants the resulting emulsion is much more stable than those produced by conventional means because of the small particle size.

For the benefit of the food, pharmaceutical and other industries where cleanliness is of prime importance, all parts in contact with the liquid are made of stainless steel or other noncontaminating materials. Cleaning is simple because the vibrating head can be dismantled by hand in a few minutes.

The pump is equippped with a by-pass valve to regulate output and adjust the Homogenizer to various viscosities. It also has an orifice for an optional line to convey additives if necessary.

The motor is totally enclosed in a light-weight alloy casting. It is designed to run in any position on 220-440 volt, 3-phase, 60-cycle current.

Having been used extensively in Europe, the Rapisonic Homogenizer has proved its efficiency for multifarious applications. It can be used to emulsify such food products as mayonnaise, soups, spaghetti sauce, margarine, toffee, ice-cream mixes, sugar syrups and many others. The baking industry can look forward to improved emulsification of bread ingredients such as lard, milk powder and lecithin.

Among other successful applications are wax emulsions, insecticides, dyes, photographic emulsions, resin preparation, paper coatings, detergents and adhesives.

For more information on the Rapisonic Homogenizer write the J. H. Day Company, Incorporated, Dept. 21, Cincinnati, Ohio.

The J. H. Day Company, Incorporated, is one of the world's largest producers of equipment for the baking, paint & varnish and chemical process industries.

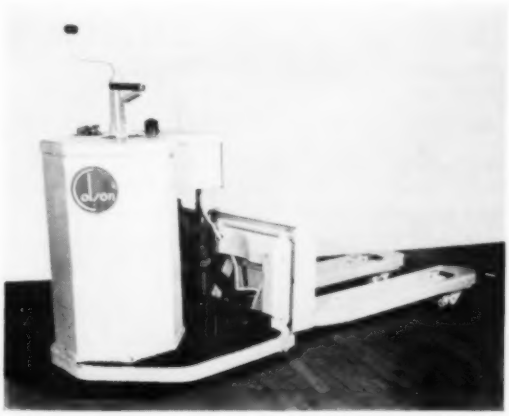
Pallet-Type Colson Handler

A double-faced pallet-type Colson Handler is being introduced by the Colson Corporation, Elyria, Ohio, manufacturer of material handling equipment. It is the second in the line of rider-type Colson Handlers to be brought out. The first, a platform model, was introduced in 1954.

The new fork truck type Handler has the same performance features as the platform unit. Controlled by a single lever, it has two speeds forward and two speeds reverse and automatically shifts from low to high and from high to low. By merely raising the control lever the pallets are lifted. Brakes apply instantly and automatically when the operator lets go of the control handle.

This 4,000-pound capacity pallet truck travels at speeds up to four miles per hour and has a steering arc of 200 degrees. It weighs 1,175 pounds. Lowered height of the forks is $3\frac{1}{4}''$ and the lift height is $4''$.

Standard fork lengths are 32, 36, 40, 42, 48, 54, and 60 inches. The forks are $9\frac{1}{4}$ inches wide with an $8\frac{1}{2}$ inch space between them. Width of the truck unit is 29 inches and length is 30 inches.



Load-Mobile Stand-Up Fork Truck

A new Stand-Up Fork Truck with all the function of the popular Load-Mobile Sit-Down type is now being manufactured by Market Forge Company, Everett, Massachusetts. This new Stand-Up Fork Truck allows the use of two batteries placed on either side of the operator, without sacrificing mobility and with an increase in performance.

The Stand-Up type Load-Mobile Fork Truck permits easy and safe operation. A simple foot switch with two speeds forward and two speeds reverse and equipped with a dead-man brake, gives one-foot control operation and automatic braking when the unit is unattended. Forward and reverse are controlled by a direction switch which is hand operated and mounted conveniently near the steering wheel.

The storage batteries, either 12-volt units connected in parallel for independent or simultaneous use, or six-volt units connected in series provide up to 800 amp. hrs. capacity.

Measuring only 31 inches or 42 inches in width and $58\frac{3}{4}$ inches in length, not including forks, and with a turning radius of only 52 inches, the Load-Mobile

"The NEW Installations are COLTON"

Colton Tableting Equipment at
RIKER LABORATORIES, INC.

Ethical Specialties

LOS ANGELES

This tablet design presented technical problems because of the difficulty in reproducing crisp, clearly defined letters upon the convex surface of tablets ranging in size down to ¼" diameter. These problems were successfully solved through the cooperative effort of Riker and Colton technicians and the Colton tooling faithfully retains the familiar, identifying characteristics of the Riker trade-mark. This compact Colton Tableting installation includes a Mixer, Wet Granulator, Ovens and high speed Rotary Tableting Presses. If you have any kind of tableting problem, we invite your inquiries.

ARTHUR COLTON COMPANY

DIVISION SNYDER TOOL & ENGINEERING COMPANY
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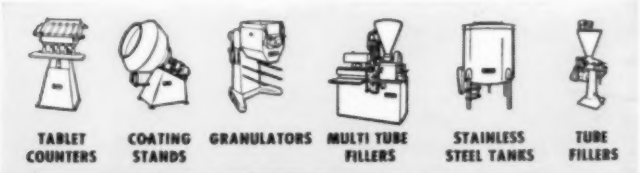


Stand-Up Fork Truck provides an all-purpose tool for handling materials and the performance of maintenance.

The amazing versatility, easy operation, light-weight, long-life and ruggedness of the Market Forge Load-Mobile Stand-Up Fork Truck makes it an ideal unit for even the smallest plants where loads of more than 50 pounds must be handled. The Load-Mobile Stand-Up Fork Truck is another in the series of outstanding developments for more efficient materials handling by Market Forge Company.

Full information may be obtained by writing Materials Handling Division, Market Forge Company, 35 Garvey Street, Everett 49, Massachusetts.

Sealing Polyethylene Tubes

Carbert Manufacturing Co. Inc., 144 Moody St., Waltham, Mass., has introduced the "Bank-Seal," a new, semi-automatic machine for sealing polyethylene tubes. Their first production model, according to Robert Saumseigle, president, has been sold to the Bradley Container Corp., where it is being used for demonstration and contract packaging operations.

The "Bank-Seal" has been designed especially to handle Bracon plastic tubes from 3/8" to 2-3/8" in diameter and was developed for use in those circumstances where complete automatic filling and sealing was not required.

Plastic Piping

Eli Lilly and Company, Indianapolis, one of the world's largest manufacturers of pharmaceuticals, biologicals and antibiotics, is making effective use of unplasticized polyvinyl chloride piping.

The PVC piping, fabricated with injection molded screwed fittings produced by Tube Turns Plastics, Inc., Louisville, Ky., has successfully solved a variety of corrosion problems and lowered maintenance overhead.

In one application, 3/4" PVC vacuum lines have been installed on vessels employed in precipitating ether. They replace carbon steel piping, which was subject to the corrosive action of entrained moisture and sweating.

In a second application, 1 1/4" PVC piping is employed in a drainage system for handling spent hydrochloric, sulfuric and other mineral acids at room temperature. The PVC piping replaces carbon steel piping, which could not safely handle these corrodents for longer than eight months. The PVC installation is expected to be permanent and require no maintenance.

In a third application, a 1" PVC line is used to carry dilute sulfuric acid to a cooling tower. The acid (1/2 of one per cent) serves to maintain the water's pH factor at 5.8-6.3. Carbon steel piping was not considered for this application, since its service life would be relatively short.

Eli Lilly's PVC piping provides numerous advantages. It is inert and non-toxic; exceptional resistance to attack by corrodents has drastically cut piping costs in the services for which it is used. And it eliminates safety hazards that might otherwise be entailed by leakage.

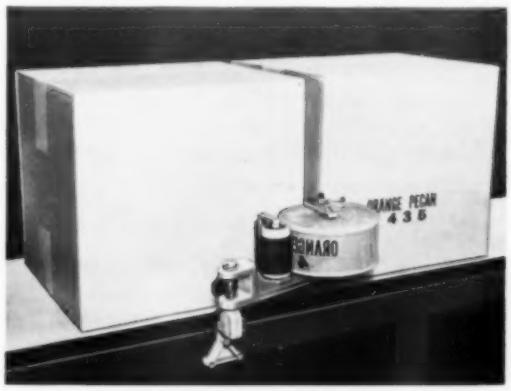
Additionally, the PVC piping was lower in cost than stainless steel, lined carbon steel or other piping materials usually employed where corrosion problems are present. It is as easy to disassemble as it was to install, light in weight, unaffected by weather, and has non-aging characteristics and good electrical and insulating properties.

The PVC fittings employed by Eli Lilly are made by the exclusive Hendry process for injection molding, owned by Tube Turns Plastics, Inc. They are appreciably stronger than PVC fittings made by conventional compression molding processes, on a strength to weight basis. The fittings for the Eli Lilly installations were furnished by the Central Rubber & Supply Company, Indianapolis.

Three New Features for Case-Marker

A new rotary, friction-driven case-marker, that incorporates three special features of interest to users of corrugated and fibre shipping cases has been announced by Adolph Gottscho, Inc., Hillside 5, N. J.

Like other "Rolacoder" units the new model is designed for attachment to a conveyor or case-sealer where it imprints code-dates, lot numbers, brands, varieties and similar changeable legends on sides of cases as they pass through a regular production or handling operation. The "Model 113," however, has been specially designed to place only one accurately positioned imprint on cases over 24" long. Earlier



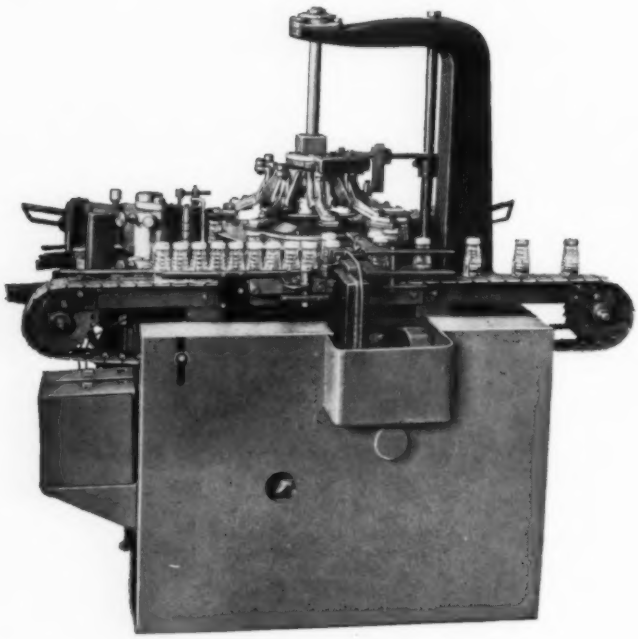
standard "Rolacoder" markers are limited in their use to cases not exceeding 24" long. Another new feature of the "Model 113 Rolacoder" is a positioning finger which enables the marker to operate at maximum efficiency with as little as one-inch space between successive cases. Spacing between cases need not be uniform and rate of flow may be irregular. The third point of distinction in the new marker is its ability to position an imprint within plus-or-minus 1/8th-inch of a designated marking area on the case side. This is considered extremely accurate registration for a low-cost marking attachment.

NO OTHER FULLY AUTOMATIC LABELER CAN

You'll find them only in

GIVE YOU ALL THESE Extra ADVANTAGES

the PONY EXPRESS®



1. Handles oval, square, round and tapered shapes.
2. Applies glue from edge to edge for elimination of blisters.
3. Uses vacuum principle of label handling to assure perfect register and minimum glue attention.
4. Effective circulating glue system, - with micro glue control to prevent glue smears on containers.
5. Requires NO OPERATOR.
6. Petty-Cash Change-parts.
7. Clamps containers into position **prior** to moving container toward labeling station, to avoid faulty label register.
8. Change-over almost as quickly and simply as the Pony Labelrite.
9. No label-feeding unless incoming containers signal their approach.
10. Self-cleaning glue system,

The PONY EXPRESS is a logical development incorporating all the precision features which have made an unprecedented reputation for the Pony Labelrite. Being fully automatic, the FULL rated capacity (70 per minute) is available for sustained production.

Here, for the first time, is an automatic which is **not** "single-purpose", or restricted to a greatly limited range of work,—usually the case with ordinary automatic machinery.

We'll gladly arrange a demonstration!

539 ***Send in sample containers with labels for accurate details!***

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AT THE PACKAGING SHOW

The Potdevin Machine Co., 285 North St., Teterboro, N. J., will occupy Booth No. 859 at the 1955 National Packaging Exposition, April 18-21 in the National Amphitheatre, Chicago.

Featured at the Potdevin exhibit will be the firm's line of coating, gluing, and labeling machines for the application of liquid materials to sheets and webs of paper, cloth, cardboard, and other flexible or rigid materials. Equipment shown will include the Corliss Vial and ampule labeler, the Model 2R sheet coating machine, the Model MG edge gluer for thin materials, the 6″ label activator for thermoplastic labels, and a collapsible-tube labeler for applying slip labels to collapsible tubes.

Shown for the first time, will be the Model 2MRG Latex Cementer.

The following personnel will be in attendance at the Potdevin display: J. Henry Richmond, President; James S. Hamilton, Assistant to the President; Joseph S. Hawkins, Sales Manager Gluing and Coating Div.; Robert A. Potdevin, Vice President; C. Edward Duerr, Assistant Sales Manager Bag Machinery Div.; Sumner Norton, Sales; Owenes L. Denton, Sales; J. Donohoe, Sales; A. G. Miller, Assistant Sales Manager Gluing and Coating Div.

Du Pont technicians will demonstrate loading of aerosol products by pressurized and cold-filling methods as one of the highlights of their Kinetic Chemicals Division exhibit at the Packaging Exposition.

Simplified laboratory equipment will be set up in the du Pont Display (Booth No. 1039) at the International Amphitheatre. Technicians also will demonstrate the various types of spray patterns that can be obtained with modern aerosol products, including streams, coarse and fine sprays, foam, and dry powder deposits.

Other portions of the 600-square-foot display will include a shadow box unit with samples of more than 85 different types of aerosol products riding on a moving belt, a giant glass aerosol package for operation by visitors to demonstrate the uniform dispensing pressure provided by liquefied gas propellants, and small table displays of typical aerosol containers and valves. Illuminated mock-ups of containers will outline the step-by-step mechanical operation of aerosol products.

Both sales and technical personnel will be available at the Kinetic Division exhibit to answer packaging questions.

Pneumatic Scale Corp., Ltd., will demonstrate the Lightning II continuous motion labeling machine at the Packaging Exposition in Chicago. This machine is equipped with two label feeds and has speeds from 250 to 300 per minute, depending on label widths.

The Gisholt Machine Company will conduct first public showing of its new Sealamatic Automatic Neck Band Applying Machine in Booth No. 405, South Hall.

The machine will be equipped with a bottle-orienting device and a double discharge and will be in continuous operation.

The Sealamatic applies pre-cut cellulose bands on half-pints, pints, fifths and quarts, flat or round ware, orienting or non-orienting-type bottles. The production rate is instantly variable from 50 to 150 bottles per minute with as little as five minutes to change bottle shapes and as little as thirty minutes for major size changes.

Although principally designed for use in the liquor, wine and beer industries, the Sealmatic also handles chemicals, cosmetics, pharmaceuticals and foods using similar-size bottles

Economic Machinery Company, Worcester, Massachusetts, Division of the Geo. J. Meyer Manufacturing Co., is introducing an entirely new, high-speed, automatic labeling machine at the Packaging Show. This new machine, which will be known as the World Super C. M. Labeler, combines straight-line operation with high-speed, simultaneous application of single or multiple labels, a performance feature that has for many years been available only in Labelers built by Economic Machinery Company.

The World Super C. M. applies body labels only or front, back and shoulder labels; front, back and wrap around neck labels or foil—all at the same time and at high speed. It embodies the tested and established principles of World Labelers and at the same time incorporates many new and unique design and operating features.

In the World Super C. M. the glass containers are in continuous motion but completely and firmly controlled throughout their trip through the Labeler. A feed screw spaces the glass containers correctly and precisely for label application. The labels are applied simultaneously to each of three glass containers. The center, not the end, of the label comes into initial contact with the container, assuring positive registration as well as application of multiple labels. Air operated pressure wipers designed to fit the size and shape of the glass containers affix the labels firmly and securely.

While the Super C. M. is capable of speeds up to 300 glass container per minute the gluing mechanism actually operates at a speed slower than that of most labelers rated at 120 per minute. This means that adhesives in successful use at the 120 BPM rate are equally, if not more, satisfactory with the high speed Super C. M.

Extra tall or oversize glass containers cannot cause damage or interfere with production in this Labeler because it is equipped with safety devices which positively and automatically stop the machine until the operator removes the off-standard container. Another safety device at the discharge and stops the Labeler in the event of a pile-up at the case packer or on the packing table that would cause the containers to back up into the Labeler. Extra contacts are provided in this particular safety device to stop the machine ahead of the Labeler.

Exceptionally Versatile!

NEW IMPROVED
STOKES & SMITH

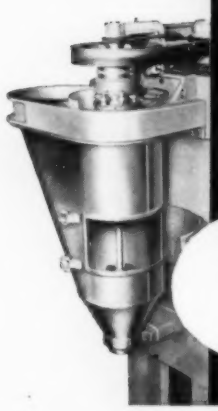
EG UNIVERSAL AUGER FILLER

for

- *volumetric filling*
- *pressure packing*
- *gross weighing or*
- *combination auger-vacuum of cans, jars, boxes, bags, etc.*

Packaging costs take a sharp drop when you put the Universal EG Filler in your production line. Auger speed is adjustable from 500 to 1000 RPM, with the filling cycle pre-timed to pace the operator from 15 to 30 units per minute. Micrometer adjustment assures accurate fill. Will accommodate a wide range of package sizes.

CAPACITIES: *⅛ oz. to 5 lbs. in powder, paste or granular form.*



40% FEWER WORKING PARTS

Totally enclosed gears run in oil, assuring exceptionally quiet operation. No cams or sprockets. Magnetic clutch is self-adjusting. All driving parts located above filling station for easy maintenance, clean operation. Compact—24" wide, 31" deep, 7'7" high.

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PACKAGING SHOW
BOOTH 1022

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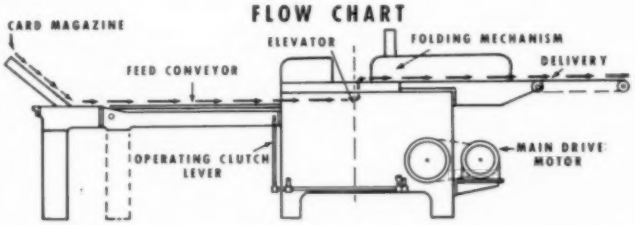
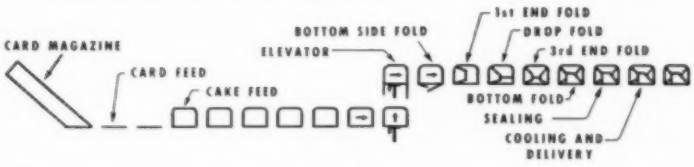
SUBSIDIARY OF FOOD MACHINERY AND CHEMICAL CORPORATION

How "Continuous Flow" packaging works ... and what it means to you

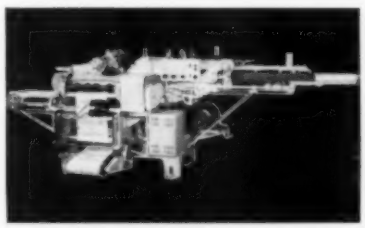
The secret of the precise wrapping of your products at high speeds with Battle Creek wrapping machines is the Battle Creek designed principle of *"Continuous Flow"*. With *"Continuous Flow"* each package is handled gently, without sudden stops and starts, so as not to damage the product in your package. No matter what operation a Battle Creek machine performs . . . carton feeding, bottom sealing, lining, roll closing, top sealing or wrapping . . . it is always performed with smooth flowing action . . . quickly, quietly, efficiently. And Battle Creek's *"Continuous Flow"* action means longer machine life, free of time consuming breakdowns, and, as a result, lower maintenance. Harsh reciprocating motions and cam actions are also eliminated which add to machine life.



"Continuous Flow" **chart of the Battle Creek Model 43. In the Battle Creek Model 43 the packages flow continuously in a direct line from feed to delivery.**



Detail of the wrapping functions performed during the smooth *"Continuous Flowing"* action. Each function is performed quickly, easily, efficiently without sudden stops and starts or harsh reciprocating actions. Each package is handled separately, with no two packages touching each other.



THE BATTLE CREEK MODEL 46

The Battle Creek Model 46 is one of the most versatile in the Battle Creek line. It handles a wide variety of products at new high speeds and lower costs. It provides a sure, snug seal that assures more durable wrapping, free of wrinkles. Its smooth *"Continuous Flow"* operation easily turns out as many as 100 "Show Case" packages per minute. Easy changeover from one package size to another.

Write for this catalog for complete information on the adaptable, versatile Battle Creek machines.

BATTLE CREEK
packaging machines, inc.
800 MERRILL PARK
BATTLE CREEK, MICH.

"continuous flow" wrapping

Compounder's Corner

Camomile Wet Dressings

Local and topical therapy are still considered the most effective therapeutic agents in the management of most cutaneous diseases, the wet dressing being one of the most useful in dermatologic therapy. Any acute contact dermatitis, whether it is due to chemicals, plants or physical agents, is benefited to some extent by properly applied, bland, wet dressings.

In Europe, particularly Germany, camomile flowers, used as a wet dressing, is a recognized form of therapy. The German or Hungarian variety is listed as the official matricaria in the National Formulary.

Apparently the active principle is contained in the volatile oil obtained by steam distillation and consists of azulene, sesquiterpenes, sesquiterpene furfurol, and a fatty acid.

S. M. Bluefarb (*A.M.A. Arch. Derm. and Suph.* 70:522, 1954) used matricaria powder as a wet dressing on 50 consecutive patients having acute dermatitis of various origins and reported that 46 patients showed improvement. The results indicate that matricaria (camomile) powder, used in solution, is an excellent therapy for acute dermatitis.

Comment: Azulene, an intensely blue compound with the empirical formula of naphthalene and a similar odor, is being offered commercially and may well warwant investigation as an ingredient in creams and lotions for treating dermatitis. If green tooth paste, why not blue creams?

Antiseptic Hand Cream

The incidence of staphylococcal infection in babies born in a maternity hospital was shown by Murray and Calman (*Brit. Med. J.* 1955:81) to be related to the prevalence of carriers of the staphylococcus among nurses, the organism often being conveyed by the hands. The use of an antiseptic hand cream would to a large extent prevent this transfer of bacteria from nurse to baby.

A new antiseptic compound—1:6-di-4′-chlorophenyldiguanidohexane 10,040—was incorporated in a cream ("hibitane") and its effectiveness in keeping the skin free from bacteria tested in the laboratory, two new methods being used. Both methods showed that this cream was capable of greatly reducing the bacterial count of the skin.

Use of the cream in the wards led to a marked decrease in the number of clinical cases of staphylococcal infection; during the period of trial no groups of infection were seen in any ward or nursery.

Cold Wave Neutralizers

Neutralizers for thioglycollate cold wave lotions consist of oxidizing agents to which an organic acid may be added:

Maleic acid plus hydrogen peroxide
Hydrogen peroxide plus a wetting agent
Potassium bromate
Sodium perborate
Tartaric acid plus hydrogen peroxide
Potassium persulfate.

An organic acid may be included in the neutralizer not only to neutralize excess alkali left on the hair by the waving solution, but also to prevent subsequent bleaching which might result from the use of hydrogen peroxide. Bleaching occurs more readily at alkaline pH values and reduced pH counteracts this. Potassium bromate is a powder effectively used in home wave kits; sodium perborate is a good neutralizer, is harmless, non-irritating, quick-acting and free from fire hazard. The monohydrated salt is very stable and has a high oxygen content. A British preparation was analyzed and found to contain sodium perborate, sodium hexametaphosphate and a wetting agent. *S.P.C.*

Solubility of Monostearin

A comparison of the solubility of highly purified monstearin (99.2 per cent purity) in acetone, isopropyl alcohol, methyl alcohol, ethyl alcohol and hexane by T. L. Ward and W. S. Singleton (*J. Am. Oil Chemists' Soc.* 32:172, 1955) indicates that solubility is greatest in isopropyl alcohol and decreases in the order ethanol, acetone, methanol and hexane. In acetone, the solubility of monostearin at 17.20° C. is 0.990 grams per 100 grams of solvent, 1.957 grams at 24.08° C. and 4.070 grams at 31.33° C.; in isopropyl alcohol the solubility is 1.973 grams at 18.23° C., 3.215 grams at 22.99° C. and 4.953 grams at 27.25° C.; in methanol the solubility is 0.999 grams at 19.65° C. and 2.002 grams at 25.46° C.; in ethanol the solubility is 5.000 grams per 100 grams of solvent at 29.35° C. and in hexane the solubility is 0.227 grams at 44.28° C.

Antimold Agents

Upon mixing the mycophil agar of *p*H 7 with deteriorated syrup of *p*H 5, the resulting product showed a *p*H of 6, before the addition of any preservatives. Under these conditions benzoic acid was an effective preservative in a concentration of 1:1,000 while sodium benzoate was ineffective at 1:500. These results are in accord with previous reports that sodium benzoate is effective only in acid solutions.

The esters of *p*-hydroxybenzoic acid were effective at the following concentrations: methyl 1:1,000, propyl 1:2,000, butyl 1:5,000.

Many of the volatile oils, organic acids, and other substances tested have been previously reported as having preservative effects on the basis of different types of tests but it was deemed of interest to evaluate their antimolding properties by comparing them directly under the same conditions. In addition, tests were made by Lord and Husa (*J. Am. Pharm. Assoc. Sci. Ed.* 43:438, 1954) on other substances such as flavoring and perfumery materials not previously reported as preservatives; these substances were tested with the thought that they might possess previously unsuspected preservative effects.

Many of the substances tested showed an effectiveness equal or superior to that of benzoic acid and esters of *p*-hydroxybenzoic acid. However, further studies must be made before these substances can be recommended for actual use, giving careful consideration to odor, taste, toxicity, and compatibility with

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Rose de Mai Synthetic
by Albert Verley and Company
Especially noteworthy now as a successful interpretation of the fresh flower
TURN THE PAGE

Rosam

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. . . frees you from dependence upon the scarce and costly natural Absolute

$25 a pound

ROSAM deserves more than passing notice today — the rose harvest in France has been meager — and the cost of Rose Absolute continues exceedingly high.

Rosam is a totally synthetic Rose composition which truly recreates the living flower. It has been adopted by many leading houses as a complete, economical substitute for Absolute Rose de Mai in all its uses.

You can use Rosam in your most significant formulas — alone or in combination with the natural product — and get a smooth, harmonious blend otherwise extremely difficult to achieve.

See for yourself how Rosam helps you maintain the quality standards which have established your reputation. Write today for a working sample.

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Synthetic Aromatic Products and Organic Isolates • Synthetic Flower Oils and Aromatic Bases • Bouquets and Finished Compositions

medicaments.

Of the substances included in the present study, the two most effective mold inhibitors were cinnamic aldehyde, which was effective at a concentration of 1:10,000 and oxyquinoline sulfate which was effective at 1:100,000.

Physics of Tablet Compression

The relationship of the upper and lower punch forces and the ejection force during the process of tablet compression has been studied by Higuchi, Busse, et al. (*J. Am. Pharm. Assoc.* 43: 596, 1954). Large differences may exist between the maximum force exerted by the upper punch and the maximum force obtained at the lower punch. When such differences exist, substantial forces are needed to eject tablets from the die. The magnitude of the difference between the maximum upper and lower punch force and the magnitude of the ejection force appear to be linearly dependent on the area of the tablet in contact with the die wall. The value of the ejection force and the difference between the upper and lower punch forces are both markedly affected by the presence of lubricants. With a well-lubricated granulation the force exerted by the upper punch is essentially the same as that transmitted to the lower punch and a negligible force is required to eject the tablets from the die.

Results obtained from studies on the dependency on compressional force of various physical properties of compressed tablets are shown to be in good qualitative agreement with those found in an earlier investigation on sulfathiazole tablets. Such differences in behavior of several granulations as were found could be attributed mainly to the difference in relative hardness and cohesive properties of the substances employed.

The specific surface area of tablets increases with increased maximal compressional force to a maximum, and then decreases.

Apparent density varies directly, and porosity inversely, with the logarithm of the compressional force, up to a force level well above that used in ordinary compression of tablets.

Hardness varies directly with the logarithm of compressional force, leveling off at high forces. It also varies directly as the apparent density of tablets.

The logarithm of the disintegration time of tablets varies directly with compressional force. Higher rates of disintegration are produced by increasing the proportions of dried cornstarch added.

In some instances where a high percentage of disintegrating agent is present, faster rates of disintegration of the tablets are obtained as the maximal compressional force is increased. This continues up to an optimum compression after which the ordinary relationship of disintegration time with compressional force is manifested.

Bacteriostatic Agents in Parenterals

A study was undertaken by W. R. Gladheart, Jr., R. M. Wood and A. Purdum (*Bull. Amer. Soc. Hosp. Pharm.* 1954, p. 389) to determine the following:

1. The sterility of multiple-dose vials after the last dose has been withdrawn for administration.

2. The stability of several antimicrobial agents after autoclaving.

3. The activity after autoclaving of several antimicrobial agents incorporated in parenteral preparations.

As a result of the studies, the following conclusions were reached:

1. Chlorobutanol, because of its instability upon autoclaving, is not a safe antibacterial agent to add to parenteral preparations prior to autoclaving.

2. Seven antibacterial agents and one combination of agents were examined for bacteriostatic activity before and after autoclaving. It was found that benzethonium chloride, Hyamine 10-X and *p*-chloro-*m*-cresol were superior to the others in the concentrations employed. Benzethonium chloride 0.01 per cent is the agent of choice in those parenteral solutions with which it is compatible.

3. Benzethonium chloride 0.01 per cent was found to be compatible with atropine sulfate, ephedrine hydrochloride, histamine diphosphate, meperidine hydrochloride, morphine sulfate, procaine hydrochloride and sucrose.

Skin Protective Silicone-Containing Cream

A water-resistant, film-forming, skin protective composition comprising a plastic residue consisting essentially of nitro-cellulose an organopolysiloxane, and an innocuous, nitro-cellulose-compatible oil dispersed in an aqueous oil-in-water emulsion type of cream base forms the subject of U. S. 2,698,824, issued to Sergius Morgulis.

According to the patent this cream deposits a thin film on the skin, the film being impervious to irritating, corrosive and allergenic substances. Also it is said that the film is substantially water insoluble and will remain on the skin through several normal washings and through normal abrasion.

A specific example showing the preparation of the composition is given below as taken from the patent:

A skin protective ointment is prepared in the following manner: about 76 parts by weight of castor oil and about eight parts of a silicone grease (DC4 Silicone Grease, Dow Corning, which is a polydimethyl siloxane with colloidal silica filler) are thoroughly mixed. About 16 parts by weight of nitrocellulose in a 15 per cent w./v. solution of 1-3 alcohol-either mixture is added to the oil and silicone mixture (the term w./v. indicates unit weight of nitrocellulose per unit volume in alcohol-ether solution). The mixture is stirred and gradually heated to distill off the solvent mixture. The heating is continued until the last trace of solvent is distilled off. The solid residue which remains is dried to a constant weight at 110° C.

The residue is milled into a vanishing cream base in a ratio of one part of residue to three parts of cream. The vanishing cream base is prepared by emulsifying a mixture of 25 parts of stearic acid, 10 parts spermaceti, and 65 parts of water containing 1.5 parts of 2-amino-2-methyl-1,3-propanediol.

The resulting ointment is a thick, white paste suitable for use on skin such as the hands, face, etc. The ointment is applied by rubbing a small amount on the exposed skin area desired to be protected and the rubbing continued until the ointment is no longer in evidence on the skin area. The application of the ointment may be repeated daily without harmful effects therefrom.

Parenteral Isopropyl Myristate

Studies of isopropyl myristate by E. L. Platcow and E. Voss (*J. Am. Pharm. Assoc.* 43:690, 1954) show that it has a very low degree of irritability and exhibits no sensitizing propensities in animals following topical and parenteral administration. It is nontoxic to animals, and well tolerated following injections of moderate amounts. Its mixture with aluminum monostearate in two per cent solution of the latter compound retains effective therapeutic concentrations of penicillin (procaine penicillin) for periods up to forty-eight hours after intramuscular injection in rabbits. In experiments on ovariectomized rats it compared favorably with sesame oil as a respository vehicle for estrogens.

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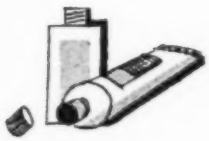

Advancing Therapy

Metacortandracin

Metacorten, the Schering brand name for metacortrandracin, is now being distributed nationally. It is said to be three to five times more active than cortisone and relatively free from side effects. Clinical studies have been reported for over 1,000 patients, and the compound is reported to be superior to previous hormones.

In all the tests so far made, there have been no known cases of "fluid retention." In addition, sodium content in the body has decreased. For this reason, the new drug is expected to have an even wider sale than the cortisone drugs.

Metacortandracin was created and developed by a team of seven Schering scientists: Arthur Nobile, Dr. H. Herzog, Dr. S. Tolksdrof, Dr. W. Charney, Dr. P. Perlman, Dr. E. B. Hershberg and Dr. M. M. Pechet.

Barbiturate Antagonist

Shaw reported some months ago the discovery of a new barbiturate antagonist, β,β-methylethylglutarimide (NP 13). In rats, mice and rabbits, NP13 antagonized pentobarbitone, thiopentone and barbitone anesthesia, reducing the sleeping time by half. In 39 cases in which suicide had been attempted by taking barbiturates, Shaw significantly shortened the period of coma, using a mixture of NP 13 and 2,4-diamino-5-phenylthiazole, a morphine antagonist which is slightly antagonistic to barbiturates.

T. A. B. Harris (*Lancet* 1955:181) described the results of clinical studies with NP 13 in terminating barbiturate anesthesia post-operatively. In a group of 57 psychiatric patients given thiopentone before shock therapy, injection of NP 13 rapidly terminated the anesthesia after the treatment. The same result was obtained after barbiturate anesthesia for orthopedic manipulations. In many instances the patient lapsed into normal sleep after treatment with the antagonist. In a few cases in which combined thiopentone and cyclopropane anesthesia were used, NP 13 had little effect, probably because of the duration of the cyclopropane anesthesia. Harris concludes from these results that NP 13 is a barbiturate antagonist of real worth and should be used in all cases of barbiturate poisoning; its use after surgical anesthesia can also be valuable but is more limited because the patient may be under the influence of central depressants other than barbiturates.

Trichomonas Treatment

Bushby, Catterall and Williamson (*Brit. Med. J.* 1955:78) compared the activity *in vitro* against *Trichomonas vaginalis* of 2-formamido-5-nitrothiazole (291 C 51) with 14 of the antitrichomonal drugs which have been recommended during the last 10 years, and which are still readily available. The nitrothiazole was also used in the treatment of 96 women with trichomoniasis, comparing the results with those obtained in the 49 women treated with acetarsol.

The 14 drugs which were compared with the nitrothiazoles were: phenylmercuric dinaphthylmethane disulfonate ("penotrane"), phenylmercuric acetate, 5-chloro-7-iodo-8-hydroxyquinoline ("vioform"), silver picrate, 5-nitro-2-furaldehyde semicarbazone (nitrofurazone), sodium perborate, mild silver protein ("argyrol"), chlortetracycline, 2-methoxy-6-chlor-9 (α-methyl-δ-diethyl-aminobutyl)-aminoacridine dihydrochloride (mepacrine hydrochloride), 3-acetylamino-4-hydroxyphenylarsonic acid (acetarsol), 5,7-di-iodo-8-hydroxyquinoline ("diodoquin"), 4:4′-diamidino-diphenoxypropane di-(β-hydroxyethane sulphonate) (propamidine), 7-iodo-8-hydroxyquinoline-5-sulphonic acid (chiniofon), *p*-carbaminophenyl-arsonic acid (carbarsone).

The examination *in vitro* confirms the high antitrichomonal activity of this nitrothiazole. Only penotrane and phenylmercuric acetate are somewhat more active than 291 C 51, and this applies especially to the rate at which they kill the organisms. Both of these drugs, however, have to be used in the relatively low concentration of 1:500 or less, whereas 291 C 51 is used with only slight dilution and so has the higher therapeutic index.

Compared with acetarsol, 291 C 51 has a very much higher activity *in vitro*, yet clinically it is no more effective. Both drugs are, however, very effective in suppressing the infection, and most of the patients who had relapsed after treatment with 291 C 51 had no symptoms of vaginitis, the relapse being judged solely on microscopical or physical examination.

The fact that a drug with about a hundred times the activity *in vitro* of acetarsol should prove no more effective *in vivo* suggests that the failure of local treatment to prevent relapses is not due to the lower activity of the drug. Whether systemic treatment would be more efficacious by reaching inaccessible organisms is unknown, for as yet there is no suitable drug available; 291 C 51 is too rapidly inactivated when taken orally or parenterally to be used systemically, and Bushby and Copp found it inactive when given orally or subcutaneously to mice infected intraperitoneally with *T. vaginalis*. The antibiotic trichomycin has antitrichomonal properties *in vivo* when given to mice with peritoneal infections (Hosoya *et al.*, 1953), but so far there are only reports of its use locally in women, and information about its systemic effects are awaited with interest. In the meantime if the resistant character of trichomonal vaginitis, due either to failure to eradicate the infection or to unavoidable reinfection, necessitates prolonged and suppressive treatment, 291 C 51 has the advantages of being non-arsenical and non-toxic, and is as effective as any non-arsenical drug at present available.

Comment: No mention is made in the paper of additives to the pessaries and tablets used, of a surface active agent and/or a compound that will reduce the viscosity of vaginal secretions. Other than the systemically active compound, which is not yet available, it would seem desirable to assure, by any means available, contact of the medicament with the organism. An anionic-active surface active agent compatible with the active compound should certainly assist penetration to otherwise inaccessible organisms: previous thorough douching should further permit enhanced contact.

Fluoride Safety

Further evidence of the safety of fluorides in a water supply was described in the March issue of *The Journal of the American Dental Association* by Leone, Arnold, Zimmerman, Geiser and Lieberman.

Public health scientists reported on a recently completed ten-year study at Bartlett, Tex., where the water supply contains eight times as much fluorides as are recommended for fluoridation.

They reported that no adverse effects of any kind were found upon internal organs or bone structure from prolonged use of excessive fluorides.

Included in the investigation were 237 persons of all ages. Of the total, 116 were selected at random in Bartlett and 121 in Cameron, Tex., 25 miles away where the water is low in fluoride.

At the end of the ten-year study, a comparison of the physical findings of residents in the two communities showed no significant differences in the following: blood pressure, arthritic conditions, bones and bone fractures, tumors, cysts, thyroid or kidney disorders, or hearing.

The investigators also reported there were no significant differences in age-adjusted death rates in the two communities.

The incidence of diseases of the heart and blood vessels actually was higher in the fluoride - deficient town of Cameron, the investigators reported.

As was anticipated, mottled teeth were evident in Bartlett among individuals born and raised in the area of unusually high fluoride concentration.

This condition, known as dental fluorosis, is not apparent in communities with the desirable concentration of one part fluoride per million parts of water.

Reserpine Analog

Four alkaloids, δ-yohimbine (rauwolscine), yohimbine, reserpine and serpentine have so far been isolated from the roots of *Rauwolfia canescens* L. Stoll and Hofmann (*J.A.C.S.* 77:820, 1955) have now isolated two further alkaloids, pseudoyohimbine, which is known, and a new alkaloid which they named canescine. Canescine seems to have the structure of 11-desmethoxyreserpine; investigations have shown that it possesses pharmacological properties similar to those of reserpine. Above all, it produces a marked fall in blood pressure. The methoxy group in position 11 of the reserpine molecule, which is absent in canescine, therefore, does not seem to be necessary for the pharmacodynamic actions typical of these substances.

Comment: This makes the eventual synthesis of compounds with reserpine action just so much closer and we hazard the guess that reserpine, canescine and possibly simple derivatives will in time become available from synthetic sources.

Toxoplasmosis Cure

The first successful treatment of acute toxoplasmosis in a human being was announced by R. F. Wettingfeld and R. H. Rowe of the Public Health Service Hospital, Memphis, and Don E. Eyles of the National Institutes of Health, Bethesda, Md., at the recent meeting of the American Society of Tropical Medicine and Hygiene. The patient was a woman laboratory technician who had been working on experimental toxoplasmosis in the Memphis laboratory of NIH.

After a month of vague illness, she became acutely ill with fever and swollen lymph glands. Her associates at NIH had previously found that a combination of a triple sulfa drug and the antimalaria drug, Daraprim, was highly active against toxoplasmosis in mice, so they gave the same drug treatment to the sick technician. Her response was immediate, and within 48 hours her fever had disappeared and other signs of improvement followed. She had a prolonged period of convalescence but was finally discharged as cured.

Germicidal Soap

The germicidal action of a soap containing one per cent tetramethylthiuram disulfide (TMTD) has been tested by Baer and Rosenthal (*J. Invest. Dermatol.* 23:193, 1954) by a modification of Price's multiple basin hand washing procedure.

One week's use of TMTD soap resulted in a very substantial reduction in the transient and resident bacterial population of the hands. This germicidal activity persisted to a considerable degree for at least two days after the soap had been discontinued but was no longer present seven days after withdrawal of the soap. No significant further reduction in either transient or resident bacterial counts resulted when TMTD soap was used for two weeks as compared with one week. The germicidal activity of one per cent TMTD soap appeared to be greater and persisted longer than that of two per cent hexachlorophene soap.

Skin micrococci did not develop increased resistance to TMTD soap after the soap had been used daily for one or more weeks.

Tests for clinical tolerance were carried out in 309 dermatologic patients who used the soap for two or more weeks, while they were under treatment for a variety of dermatoses, including allergic and eczematous dermatoses. The soap was well tolerated in 301 of these dermatologic patients. In two subjects there was clinical evidence of irritation due to the soap and in six others it had an unfavorable effect on the preexisting dermatosis. With one possible exception, these reactions are likely to have been due to the soap rather than TMTD since the subjects were suffering from dermatoses which are at times unfavorably influenced by soaps.

Patch tests for allergic sensitization to TMTD were carried out in 214 subjects with negative results in 213. A one plus reaction to TMTD solution was elicited in one subject who had developed a dermatitis after using the soap.

It is concluded that one per cent TMTD soap is a highly effective germicidal agent for use on human skin. TMTD soap even when tested deliberately in 309 dermatologic patients under clinical conditions which are highly conducive to the production of allergic eczematous sensitizations caused allergic sensitization to TMTD in only one subject.

Methyl-3-Chromone for Angina

Soulie, Chiche, Carlotti and Baillet (*Presse med.* 62:847, 1954) treated 45 patients who had angina pectoris with methyl-3-chromone. Each patient was given a placebo for 10 days before treatment with the drug was started. Improvement occurred in 22.2 per cent of the patients during the period of placebo administration. Since the over-all amelioration was 71 per cent, it appears that methyl-3-chromone can benefit 50 per cent of patients with angina pectoris. In almost every case of improvement during drug therapy, the result was checked by a second period of placebo administration during which the patient's condition deteriorated. With the dosage employed (0.1 gm. given three or four times a day), one case of drug fever with an itching skin rash was encountered, which cleared up immediately the drug was stopped. A common side-effect of methyl-3-chromone was nervousness and insomnia; this was easily controlled by moderate doses of phenobarbital. The authors observed no toxic manifestations in the blood or kidneys.

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(AN ACETAL)

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SPECIFIC GRAVITY $(\frac{20}{20})$:	1.0330
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Perfumer's Shelf

The Use of Specialties and Compounds

Probably the most controversial subject in the use of a fragrance by this industry was made the topic of a symposium at the recent meeting of the American Society of Perfumers. This subject "The Use of Specialties in Perfume Creations" was debated by two principal speakers and was followed by an active floor discussion.

During this debate the speakers frequently brought into their discussion the use of compounds as well as specialties.

Elsewhere in this department, we have given an official definition of the specialty and the perfume compound which was prepared by a Committee of the Society.

Dr. Arthur Fox, Director of Research for Colgate-Palmolive Co. led this discussion on the use of compounds and specialties.

According to Dr. Fox, there is more reason for the selective use of a specialty by a large company than there is for using a compound. He then proceeds to list several reasons why a large company should avoid the use of perfume compounds or make limited use of them.

Dr. Fox's first point was that "There are introduced into the final perfumes unknown components whose compatibility with the components of the material being perfumed is not known. Undesirable color developments may occur; reaction with chemical components of the product being perfumed may either destroy the odor of the perfume or may actually produce an undesirable odor; sometimes components of the product are actually changed by reaction with perfume ingredients, leading to deteriorations of the product. Many times these changes occur only after many months." Dr. Fox maintains that the use of compounds can and does lead to lost time on the part of the perfumer. "If the chemical composition of each component is known, a chemist-perfumer can judge whether or not to use the particular ingredients in question in developing his perfume."

Dr. Fox also supplies an economic reason for his stand and that is a reason which applies whenever a company uses any product which it does not have under its full control. In a case of shis sort the high integrity of the supply house is an essential fact of security because as Dr. Fox points out: "In the case of a falling market, the supplier may sit back comfortably when the compound costs less, in which case the supplier is paying too high a price. On the other hand if the supplier makes changes to adjust to new conditions of the market—without telling the user—then danger exists that the final product may not age satisfactorily."

Dr. Fox believes that standardization of the ingredients in a perfume is much easier if compounds are not used. His primary point here is that the particular oils in a compound may be touched up or altered, affecting the value and the character of the completed compound. Said Dr. Fox: "Little can be done by a control laboratory on compounds; gravity, refractive index, optical rotation, etc., can be adjusted easily if the formula is altered by the supplier and this leaves only the odor as a guide."

In this talk, Dr. Fox advances the opinion that use of compounds results in higher cost of perfume. He admits that this argument is difficult to advance. He believes that it is only right for a house which mixes a group of essential oils that the cost of blending should be included in the selling price but he dismisses the argument that the compound represents the art and skill of highly paid perfumers and its price should reflect this contribution. He believes that this argument is sound for consuming companies that cannot afford perfume staffs of their own but is not sound for the large companies who do have such staffs of their own.

The use of the compound, according to Dr. Fox, ties the consumer to one source of supply. This creates the kind of hazard that may occur when a critical product is limited to one supplier.

In a formal answer to this presentation of Dr. Fox, Serge J. J. Lakhovsky, a perfumer for Coty, takes entirely the opposite viewpoint but primarily concentrates his attention on the specialty. According to Mr. Lakhovsky, "the classical and masterpieces of perfumery and their artistic variations—owe their beauty and their success in the majority of instances to specialties. Indeed, some names of specialties have become as famous among perfumers as are the names of many perfumes among the public."

Mr. Lakhovsky believes that with the development of chemistry and with many new aromatics becoming available the task of the perfumer is becoming increasingly more complex. Today he said "it would be a herculean task for one person to study, select and use hundreds and hundreds of chemicals." He believes that "the perfumer who has made a specialty and the perfumer who is using it are two artists supplementing each other's work. One begins where the other left off."

"Today even specialties have become "specialized." In addition to these outstanding blends of aromatics, essential oils and floral absolutes which may be the heart of the perfume, some specialties have a particular function to perform as, for example, adding lift, freshness, warmth, floweriness, sweetness, strength, roundness and tenacity."

"In their patient, continuous and exacting study of both the flowers and the oils extracted therefrom chemists and perfumers working closely together have been able to create specialties which bring to the natural oils their strength, their lastingness and their additional floral note to such an extent that they may even replace the naturals in some instances and supplement them in others." Mr. Lakhovsky seems to have no fear of using and incorporating in a product the creation of one supplier. He says "Leading manufacturers of specialties whose reputation of integrity throughout the world has been fairly established, offer to the perfumer a

TOP NOTES by Fritzsche

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A THOUGHT for the Month:

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FLOWER of the Month

March — Jonquil
or Daffodil

April — Sweet Pea
or Daisy

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RECOMMENDATION of the Month

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I'M NO CRYBABY! . . .

". . . I much prefer to smile and coo and show my pretty dimples. And I like to have the grown folks look down at me admiringly and say: 'My, what a cute, adorable little fellow!' But right now I'm in no mood for putting on the charm. I've got medicine to take, and I'm telling you, *I just don't like it!*" Baby's thoughts may not be quite that specific, yet, to his devoted but harassed parent such tearful protest is every bit as eloquent . . . And for the cause of it all—the bad taste of baby's medicine—there is such a simple remedy. For without impairment of any beneficial qualities, most medicines can be made pleasantly palatable by the skillful use of properly compounded flavoring ingredients. In our laboratories, we maintain a service division to help pharmaceutical and proprietary manufacturers improve the flavor characteristics of their medicines *before* they are marketed. This practical flavoring service is available to interested manufacturers, *without charge or obligation* . . . and, of course, in strictest confidence. Write us for details.

●

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wealth of free experience as a service. This experience was acquired at considerable cost while developing their specialties."

Following these two talks, an active discussion from the floor took place almost exclusively concerning the use of both compounds and specialties. These opinions from the floor were emphatic in stating that no company has ever suffered economically or in any other way from an intimate association with one of the reliable supply houses; that it has been to the selfish advantage of the supply house to keep the consuming house in a position for expanding long time markets. During a long period of inflation and rising prices, the user of compounds and specialties was protected and the price increases lagged behind raw material market increases. A very large part of all of the creative work in perfume is being put into the specialties and the compounds of the supply houses and the great expansion of the cosmetic industry over the last decade would probably not have been possible without the free availability of both specialties and compounds.

In this first symposium, the American Society of Perfumers have undoubtedly initiated a debate which will continue for a long time to come.

Ambergris

Genuine ambergris is a pathological secretion of the sperm whale; it has a color ranging from dark slate-grey to white; it is of wax-like consistency and, when kneaded between the finger, softens to a plastic substance.

Ambergris has a suggestion of the scent of the sea and a light touch of a purely animal smell, recalling somewhat the odor of tobacco, frankincense, and musk. The odor of the substance itself is penetrating and not very agreeable; its matured alcoholic extracts, however, have an extraordinarily subtle animal fragrance. Due to its fine perfume, much value is attributed to fossil ambergris.

Latest research into the chemical composition of ambergris has confirmed that ambrein, a triterpene alcohol, is one of its principal components. According to F. Lederer, ambergris has the composition: 2-4 per cent hydrocarbons $C_{18}H_{22}$, 25-45 per cent ambrein, 30-40 per cent epicoprosterin free and esterified, 1-5 per cent coprosterin, less than 0.1 per cent cholesterin, 6-8 per cent ketones (including coprostanone - 3), five per cent free acids, 5-8 per cent esterified acids. The oxidation of ambrein yields ambreinolid $C_{17}H_{28}O_2$, melting point 142° and two ketones also present in ambergris: the unsaturated ketone $C_{13}H_{22}O_2$, boiling point 71-75 °C. (0.3 mm) and the saturated diketone $C_{13}H_{22}O_2$, boiling point 88-90° C. (0.3 mm). Among the volatile ingredients of ambergris (amber oil), dihydro-ionone was first identified.

The greatest of care must be taken in the use of ambergris as a perfume component due to its strong animal note.

Ambergris is used as an extract or tincture in de luxe perfumery. This tincture is prepared as follows: pour one litre of alcohol over 30 g. of powdered ambergris in a 5 litre bottle and allow it to stand at 25-30° C. as long as possible, shaking frequently until it is matured. Filter the tincture a few days before use. Ambergris tincture needs a very long time to mature, much longer than that of any other tincture of animal origin.

Among animal scents, musk has the greatest intensity, while ambergris the highest durability of odor. Ambergris tincture is, therefore, preferred for light flower perfumes, whereas perfumes with rather heavy notes will need the addition of musk or civet tincture.—*K. Bergwein.*

Vetiver

The native habitat of the vetiver plant according to A. M. Burger (*P.E.O.R.* 1955:40) is Southern India and the Malayan archipelago. The plants have been growing there since the beginning of Indian civilization and it is doubtful if they occur at all today in the wild state.

The roots of the vetiver have from time immemorial been plaited by the Indians and Malayans into mats which are moistened with water and hung from the windows so that by means of a draught the house is permeated with a fresh vetiver aroma and unwanted smells are masked.

Further, in India and Indonesia vetiver roots are used as important constituents of all kinds of fumigants and vetiver powder is an important constituent of the spice, curry powder. The grass resulting from vetiver root cultivation, which is long, very hard and capable of resisting weather changes, is suitable in the dried state for the covering of huts. It is eaten only reluctantly by animals.

Today vetiver is only propagated by vegetative root stock division. Vetiver was formerly cultivated principally in India, in Java and in Sumatra. From there is was brought to the island of Reunion and Bourbon where it has for 200 years been cultivated and distilled with great success. The Reunion oil is counted as the best kind on account of its full woody smell and high content of vetiverol. The cultivation of vetiver has been naturalized in Madagascar since the beginning of this century.

After the second world war large vetiver plantations were laid out in Haiti with the aid of more modern agricultural implements and it appears that the oil distilled there can compete in quality as well in quantity with the old provinces. The climatic conditions of Haiti are very favorable for the vetiver plants.

Vetiver oil is an important perfumery raw material in so far as no other essential oil or synthetic can reproduce the popular "Edelholzer" note.

Broom Weed Oil

An essential oil has been distilled from the flowering tops of "Broom Weed" or "August Flowers" (*Amphiachyris dracunculoides*). The yield was 1.6 per cent calculated on the dried plant material. The oil was chromatographed on silicic acid, and separated into two fractions, a hydrocarbon and an oxygenated fraction. The hydrocarbon fraction which amounted to 76 per cent of the oil was fractionated, and the following products were identified in it: α-pinene 4.5 per cent, *l*-β-pinene 53 per cent, *d*-limonene 24 per cent and the sesquiterpene *l*-cadinene 18 per cent. From the oxygen-containing portion, accounting for 26 per cent of the oil, Glasser, Harris, Christensen, Bope (*J. Am. Pharm. Assoc.* 43:291, 1954) isolated and identified *l*-borneol.

"Specialty" and "Compound"

At the recent open symposium of the American Society of Perfumers, the controversial subject, "The Use of Specialties in Perfume Creations" was the main feature in the symposium and the round table conference of this meeting.

Since the perfume industry is sadly lacking in official and specific definitions of many of the terms and words that it constantly uses, the Society prepared, before this meeting, an official definition of two of the most frequently used words in the art of perfuming. Here are these definitions.

"A specialty is a basic composition of aromatic materials which is unique in its capacity to impart a particular element to a fragrance.

"A compound is a finished perfume oil concentrate which can be used as is for any product it is made for, such as perfume, toilet water, creams, powders, soap, etc.

Coming U.S.P. XV

(*Continued on page 475*)

Sodium indigotindisulfonate injection.
Sodium radio-iodide (I^{131}) solution.
Stearic acid.
Streptoduocin for injection.
Streptomycin sulfate injection.
Succinylcholine chloride.
Succinylcholine chloride injection.
Sulfacetamide.
Sulfacetamide tablets.
Sulfacetamide sodium.
Sulfacetamide sodium ointment.
Sulfacetamide sodium solution.
Sulfamethazine.
Sulfapyridine.
Sulfapyridine tablets.
Sulfisoxazole.
Sulfisoxazole tablets.
Sulfoxone sodium.
Sulfoxone sodium tablets.
Testosterone suspension, sterile.
Tetanus toxoid, aluminum hydroxide adsorbed.
Tetracaine hydrochloride injection.
Tetracycline.
Tetracycline suspension, oral.
Tetracycline hydrochloride.
Tetracycline hydrochloride capsuls.
Tetracycline hydrochloride tablets.
Thenyldiamine hydrochloride.
Thenyldiamine hydrochloride tablets.
Thonzylamine hydrochloride.
Thonzylamine hydrochloride tablets.
Tolazoline hydrochloride.
Trimethadione solution.
Trisulfapyrimidines suspension, oral.
Trisulfapyrimidines tablets.
Undecylenic acid.
Water-miscible vitamin A.
White lotion.
Zinc undecylenate.

U. S. P. XV Deletions

Acetanilid.
Acetanilid tablets.
Acetylsalicylic acid capsuls.
Aloin.
Aminopyrine.
Aminopyrine tablets.
Ammonium mandelate tablets.
Amphetamine.
Amphetamine inhalant.
Antimony sodium thioglycollate.
Antimony sodium thioglycollate injection.
Atropine.
Barbital.
Barbital tablets.
Barbital sodium.
Barbital sodium tablets.
Belladonna extract.
Benzyl benzoate chlorophenothane lotion.
Bishydroxycoumarin capsuls.
Bismuth potassium tartrate.
Bismuth potassium tartrate injection.
Boric acid ointment.
Butacaine sulfate.
Calcium lactate.
Calcium lactate tablets.
Camphor liniment.
Camphor water.
Caraway.
Carbachol injection.
Carbachol tablets.
Cardamom seed.
Compound cardamom tincture.
Cascara sagrada extract.
Cascara sagrada extract tablets.
Cascara sagrada fluid extract.
Chloroazodin.
Chloroazodin solution.
Chloroguanide hydrochloride.
Chloroguanide hydrochloride tablets.
Cinnamon.
Cocaine.
Cochineal.
Codeine phosphate.
Codeine sulfate tablets.
Cupric sulfate.
Dichlorophenarsine hydrochloride.
Diethylstilbestrol capsuls.
Diethylstilbestrol injection.
Digitalis injection.
Digitalis tincture.
Diphtheria and tetanus toxoids.
Diphtheria toxoid and pertussis vaccine combined.
Ephedrine.
Ephedrine hydrochloride.
Ephedrine hydrochloride capsuls.
Ephedrine hydrochloride tablets.
Epinephrine bitartrate ophthalmic solution.
Erythrityl tetranitrate tablets.
Estradiol.
Estradiol tablets.
Ethyl aminobenzoate.
Ferric ammonium citrate.
Ferric ammonium citrate capsuls.
Gelatin, glycerinated.
Gentian.
Gentian tincture, compound.
Glyceryl triacetate.
Glycyrrhiza extract.
Hexavitamin capsuls.
Hexavitamin tablets.
Hydriodic acid, diluted.
Hydriodic acid syrup.
Hydrochloric acid, diluted.
Hypophosphorous acid.
Lanatoside C
Lanatoside C injection
Lanatoside C tablets
Magnesium citrate solution.
Magnesium oxide, heavy.
Mannitol hexanitrate tablets.
Menadione injection.
Mercuric oxide, yellow.
Mercuric oxide, yellow, ointment.
Mercury bichloride ophthalmic ointment.
Methacholine chloride capsuls.
Methacholine chloride injection.
Naphazoline hydrochloride.
Naphazoline hydrochloride solution, mild.
Naphazoline hydrochloride solution, strong.
Neocinchophen.
Neocinchophen tablets.
Nicotinic acid capsuls.
Oleovitamin A and D.
Oleovitamin A and D, concentrated.
Oleovitamin A and D capsuls, concentrated.
Orange flower water.
Orange peel, bitter.
Ox bile extract.
Ox bile extract capsuls.
Ox bile extract tablets.
Pancreatin.
Para-aminobenzoic acid.
Para-aminobenzoic acid tablets.
Penicillin potassium.
Penicillin sodium.
Penicillin for inhalation.
Penicillin ointment.
Penicillin procaine for aqueous injection.
Penicillin procaine in oil injection.
Penicillin troches.
Pentaquine phosphate.
Pentaquine phosphate tablets.
Pentobarbital sodium injection.
Pentobarbital sodium tablets.
Petrolatum, liquid, emulsion.
Petroleum benzin.
Phenobarbital sodium injection.
Phenobarbital sodium tablets.
Picrotoxin.
Picrotoxin injection.
Polyethylene glycol 400 monostearate.
Potassium bromide.
Potassium nitrate.
Quinine and urethan injection.
Quinine dihydrochloride.
Rice polishings.
Rice polishings extract.
Rosemary oil.
Sarsaparilla.
Sarsaparilla extract fluid.
Sarsaparilla syrup, compound.
Sassafras oil.
Scopolamine hydrobromide tablets.
Sodium phosphate.
Sodium phosphate, effervescent.
Sodium phosphate, exsiccated.
Sodium salicylate injection.
Sodium sulfate.
Spearmint oil.
Sulfaguanidine.
Sulfaguanidine tablets.
Sulfamerazine sodium injection.
Sulfamerazine sodium, sterile.
Sulfanilamide.
Sulfanilamide tablets.
Sulfathiazole.
Sulfathiazole tablets.
Sulfathiazole sodium.
Sulfathiazole sodium injection.
Sulfathiazole sodium, sterile.
Suramin sodium.
Suramin sodium, sterile.
Tartaric acid.
Theobromine calcium salicylate.
Theobromine calcium salicylate tablets.
Theobromine and sodium acetate.
Theobromine and sodium acetate capsuls.
Theobromine and sodium acetate tablets.
Triasyn B capsuls.
Tryasyn B tablets.
Tyrothricin solution.
Tyrothricin troches.
Water, distilled, sterile.

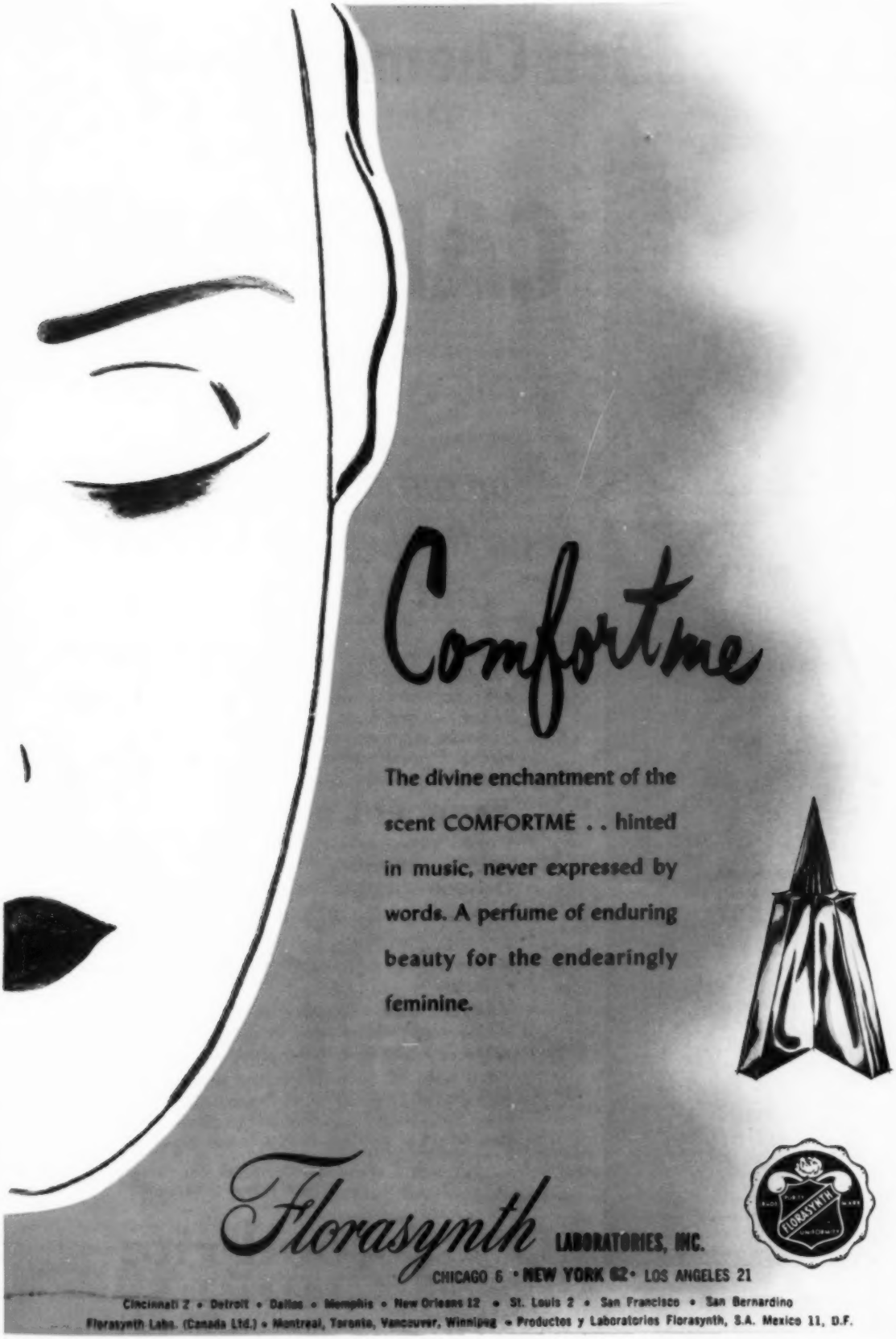
Cationic Emulsifiers in Cosmetics

(*Continued from page 466*)

used in conjunction with anionic emulsifiers. There is also strong evidence to indicate that quaternary salts will react with fatty acids as such to produce a similar complex plus the acid of the inorganic radical used to form the quaternary ammonium salt. The addition or inclusion of a controlled amount of fatty acid may therefore be one method of controlling the pH if an acid pH is desirable. Apparently the complex is so insoluble that the presence of the mineral acid is not enough to cause or reverse reaction.

It would therefore be best to start with the premise that anionic emulsifiers and free fatty acids be excluded from the system in order to obtain best results. In comparison, with anionic emulsifiers there are some points of amazing similarity. Generally, quaternaries containing an eighteen carbon chain resembles in emulsification properties soaps containing an eighteen carbon chain. Some of these compounds are capable of produc-

(*Continued on page 558*)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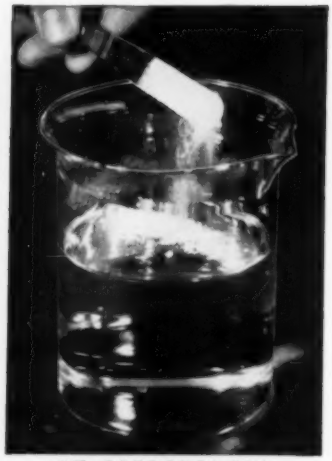

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Skin Research

Foot Sweating

The sweat gland of the sole of the foot is protected by a heavy keratin layer so that percutaneous absorption of chemicals and drugs in this region is at a minimum. For this reason it is impossible to generalize concerning therapeutic activity of local applications to the soles of the feet and an investigation was undertaken by Shelley, Laskas and Satanove (*A.M.A. Arch. Derm. and Syph.*).

In studies on 30 subjects, iontophoretic application of atropine sulfate in aqueous solution resulted in no inhibition of sweating. In a second group of 15 subjects, iontophoresis of an aqueous solution of scopolamine hydrobromide was also without effect. At the end of two weeks, only three out of 50 normal subjects using a foot powder daily showed significant reduction in sweating rate. The powder contained aluminum chloride three per cent, boric acid seven per cent, potassium alum 10 per cent, salicylic acid three per cent, starch and talc. In another group of 50 subjects using a five per cent paraformaldehyde powder daily, only four showed significant reduction in sweating. A foot soak consisting of potassium permanganate 1:5000 was inactive while concentrated ammonia water decreased sweating in two of 50 subjects. However, a single application of formalin caused reduction in sweating in 41 of 50 subjects.

It is interesting to contrast the absence of effect of iontophoresis of scopolamine on the plantar sweat gland with the effects seen following such iontophoresis on the sweat glands of the back. In a previous study similar iontophoretic procedures on the backs of normal subjects led to a significant anhidrotic effect which persisted for two weeks. In the present study the failure to produce effects on the sole for as little as 18 hours indicated the clinical inapplicability of such a procedure.

The foot powders used are two examples of currently employed agents in the treatment of hyperhidrosis. Their relative failure to affect normal sweating is of significance, but may not reflect their actual effectiveness against hyperhidrosis of the soles. Clinical observations on 20 patients with hyperhidrosis would indicate that powder was effective in reducing sweating in 25 per cent of the group, as opposed to the six per cent seen in the studies on normal men. It may well be that in the hyperhidrotic subject the powder actually acts in an aqueous phase, permitting more intimate effect on the stratum corneum.

Of all the agents tested, formaldehyde alone proved to be really active in reducing sweating. The exact mechanism of producing anhidrosis by formaldehyde foot soaks is not known. It may act either on the sweat gland acini or on the stratum corneum. Unfortunately, formaldehyde frequently acts as a sensitizer or as a severe irritant, and so it cannot be freely used clinically, despite its high index of effectiveness.

It appears that no simple topical method is now available for appreciably inhibiting the normal action of the plantar sweat gland.

Allergic Sensitivity

The index of sensitivity, i.e. the incidence of existing allergic eczematous contact-type hypersensitivity to a series of topical therapeutic agents, was investigated by Baer, Servi and Weissenbach-Vial (*A.M.A. Arch. Derm.* 71:19, 1955) in a group of 743 selected dermatologic patients. Patch tests with these topical medicaments indicated the following:

No existing allergic hypersensitivity to benzoic acid, benzyl benzoate, and ichthammol.

Allergic hypersensitivity in less than two per cent of patients to boric acid, aluminum acetate, menthol, naphthalan, petrolatum, and phenol.

Allergic hypersensitivity in from two per cent to five per cent of patients to oxycholesterol-petrolatum ointment, hydrous wool fat, dibucaine, resorcinol, salicylic acid, and iodochlorhydroxyquin.

Allergic hypersensitivity in more than five per cent of patients to ammoniated mercury, ethyl aminobenzoate, red mercuric sulfide, crude coal tar, coal tar solution, juniper tar, tetracaine, ointment containing cetyl alcohol-coal tar distillate, near colloidal sulfur and salicylic acid, chlorhydroxyquinoline compound ointment and benzoic and salicylic acid ointment, N. F.

Scalp Thickness and Balding

Of the various hypotheses advanced to account for male pattern balding, most have been rendered untenable by the simple demonstration that testicular hormones are a prerequisite for the common patterned alopecia of the male. Castrate or eunuchoid males are free from pattern balding, while testosterone can induce hair fall in genetically susceptible castrates or eunuchoids. Hair fall can be checked by castration, so that postpubertal castrates exhibit less hairline recession than normal controls of comparable age. Tight headgear, exposure to the elements, and lack of hair care no longer need be blamed for the patterned loss of hair in the male, and ketonic steroids rather than obscure micro-organisms seem to be the mediating factor. What is not clear is just how masculinizing sex hormones act upon the follicles or the supporting tissues to bring about patterned loss of hair.

In an attempt to explain how sex hormones play a role in male balding, interest has been revived in the possible relationship between scalp looseness and thickness, and luxuriance of the hair. Kohl-Pincus and Schein both reported a sex difference in the thickness and looseness of the scalp, and suggested that the amount of hair is inversely proportional to the scalp tension, and varies directly with scalp thickness. M. Wharton Young reported "a direct relationship between the thickness of the scalp and the amount of hair it contains." Szasz and Robertson further elaborated along this line. According to them, the scalp is thicker and fatter in

the female, while the hormonally mediated loss of subcutaneous scalp fat in the male makes him more susceptible to vascular changes arising from long-continued scalp tensions, and therefore more prone to balding. Thus, their theory seemingly accounts for the male-limited nature of pattern balding.

Scalp tissue thickness was investigated by Garn, Selby and Young (*A.M.A. Arch. Derm. and Syph.* 70:601, 1954) through the use of soft-tissue x-rays on 523 subjects aged four to 69 years, including 21 pairs of men matched for age, but differentiated by the amount of hair loss. It was found that males either equalled females in scalp thickness, or (after the first decade) exceeded them. There was a constant increase in scalp thickness, in both sexes, through the fourth decade. No evidence for a sex-limited pubertal or postpubertal decrease in scalp tissue was found. Though differing markedly in the degree of hair-line recession (bald men 21.5 cm., non-bald men 10.5 cm.), the pairs did not differ significantly in scalp thickness. It was concluded that the fat-loss theory of male pattern balding cannot be substantiated and that more elaborate theories involving this assumption therefore cannot be accepted.

U.V. Light and Sulfhydryl-Disulfide Groups

One of the most important functions of the epidermis appears to be the synthesis of keratin for protective purposes; therefore, biochemical research on the formation and regulation of this substance becomes very important. There is a great deal of experimental evidence which indicates that during keratinization of skin the sulfhydryl (—SH) groups in the stratum granulosum are converted to disulfide (S—S) groups in the formation of epidermal keratin. A similar chemical change probably occurs in the formation of nail and hair keratin. Since ultraviolet light is used therapeutically for the treatment of many skin diseases with abnormal or altered keratinization, and since ultra-violet light may precipitate abnormal keratinization, a study of the effect of ultraviolet light on the —SH and S—S groups was undertaken by Goldblum, Piper and Olsen (*J. Invest. Derm.* 23:463, 1954). Human serum, which is more easily obtained and experimentally more convenient to use than keratin, was used in the investigation. It was thought that a study of the effect of ultraviolet light on these groups in sera might reflect some of the actions of ultraviolet light on skin.

After the initial observation demonstrating an increase in serum —SH and S—S groups with irradiation of normal human sera, two questions arose: (1) What wavelength and what intensity produced this change? (2) What was the mechanism that produced this change?

With the wavelength ranges and conditions used, only the 2537 Angstrom line produced the increase of —SH and S—S groups. The other ranges in the ultraviolet produced no change. Denaturation probably accounts for most of the increase. Rupture of the hydrogen bonds accompanying denaturation might expose more —SH groups for titration. It is also known that the peptide bonds (CONH) may be ruptured by light of wavelengths 2500 to 3000 Angstrom. Perhaps this would account for the exposure of more —SH groups.

One other possible mechanism for the increase in —SH groups is the splitting of the S—S bond by ultraviolet irradiation. This mechanism probably does not account for the increase since —SH groups were not detectable after irradiating cystine which contains the S—S linkage, in spite of a decrease in S—S groups after irradiation. The S—S group decrease was probably due to oxidation rather than formation of —SH.

In the discussion, Dr. Rothman suggested that this work indicates there is an increase in sulfhydryl groups of proteins due to the unfolding of coiled polypeptide chains. This in turn suggests that ultraviolet light may promote normal keratinization or even normalize pathological keratinization because keratinization seems to be preceded by an unfolding of polypeptide chains.

Percutaneous Absorption

The speed of penetration of the skin of rats according to G. Valette, R. Cavier and J. Savel (*Arch. intern. pharmaco.* 97, 232, 1954) was measured for the saturated hydrocarbons, primary alcohols and their acetate esters, and the ethyl esters of the saturated fatty acids. The rate increase up to a chain length of six to eight C atoms and then decreases. The hydrocarbons penetrate best, the alcohols least. The esters at their optimum chain length are absorbed about as fast as the hydrocarbons but otherwise quite slowly. Benzene, ethylbenzene, isopropylbenzene, xylene, and cymene were well absorbed, and so were myrcene, alloocimene, limonene, phellandrene, pinene, and nopinene. Caryophyllene is, however, very slow. Methyl and ethyl benzoates and salicylates and ethyl phenylacetate are slow.

The viscosity, surface tension, solvent powers for stearic acid, cholesterol, water, and penetration through porcelain impregnated with fatty acids were compared and correlated with speed of absorption through the skin. The optimum zone of absorption, at about six to eight C compounds in each series tested, is mainly the result of two factors, which increase with chain length. These are lipide solubility, which helps skin absorption, and viscosity, which hinders it.

Distribution of Sulfhydryl and Disulfide Groups

In the epidermis according to Montagna et al (*J. Invest. Dermatol.* 22:23, 1954) sulfhydryl and disulfide groups are distributed homogeneously from the basal layer to the stratum granulosum. The stratum corneum, which has a small concentration of sulfhydryl has a high concentration of disulfide. A narrow layer of cells interposed between the stratum granulosum and stratum corneum contains a concentration of sulfhydryl and disulfide groups. In the epidermis of the palm and sole, the accumulation of sulfhydryl and disulfide groups is more intense than that in the skin elsewhere in the body. Sulfhydryl and disulfide groups were demonstrated neither in the keratohyalin nor in the trichohyalin granules of hair follicles.

In active hair follicles, the external sheath is strongly and uniformly reactive to the sulfhydryl reagent. The "keratogenous" region of the hair root is intensely reactive for sulfhydryl groups. The distribution of disulfide groups in the external and internal sheath of the hair follicle is similar to that of the sulfhydryl groups. The keratinized hair shaft is reactive for disulfide groups.

In resting hair follicles the epithelial sac, which contains the hair club, is moderately reactive for sulfhydryl groups but the club is almost unreactive. The keratinized rootlets of the club and the epidermal cells which anchor the club form a strongly reactive band around it. The hair club and shaft are strongly positive for disulfide.

Both the secretory and ductual portions of the apocrine and eccrine sweat glands are reactive to the sulfhydryl and disulfide reagents, the reaction being particularly conspicuous in the myoepithelial cells.

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2. Creams can be adjusted to the acid side to match the pH of the skin. Formulas properly made with Atlas non-ionic emulsifiers can be readily made neutral, acidic or alkaline as desired.

3. Astringent acidic salts can be incorporated in the formula without affecting stability. Aluminum sulfate, aluminum chlorhydroxide complex, aluminum chloride and zinc sulfate are typical of the additives which can readily be incorporated into properly formulated creams, through the use of Atlas emulsifiers.

4. Normal changes in hardness of water supply need not adversely affect emulsions made with Atlas products.

5. Excellent stability to freezing is readily obtainable by means of Atlas emulsifiers.

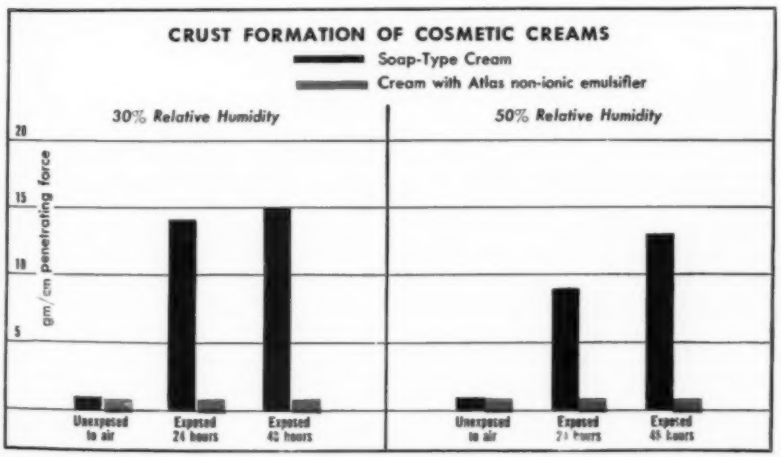
6. Loss of water from creams, due to exposure, does not cause surface encrustation when creams are made with Atlas non-ionic emulsifiers. (See chart.)

7. Excellent cosmetic "feel," smaller particle size and finer texture possible with Atlas emulsifiers often prove valuable in adding distinctive qualities to cosmetics.

Write to Atlas today for a copy of "A Guide To Cosmetic and Pharmaceutical Formulation with Atlas Products," and for assistance on your specific emulsion problems.

CHOOSING HUMECTANTS FOR COSMETICS

A humectant such as sorbitol, glycerin or glycol is used in a cosmetic cream (1) to reduce loss of water during manufacture and when the cap is removed; (2) to provide smooth application; and (3) to give a good cosmetic "feel" on the skin after application. A valuable scientific guide to comparison of available materials is offered in the article "Hygroscopic Agents and Their Use in Cosmetics." Write to Atlas for a copy.



Results of weight-penetration tests on O/W soap-type creams and similar formulas using non-ionic Atlas emulsifiers, before and after exposure to air. Creams contained no humectant. Results are thus due entirely to the difference in emulsifiers. Note that the non-ionic creams remained soft even after 48 hours, while the soap-type creams had encrusted enough to require 10 to 15 grams to pierce the crust. For full details on test procedure and results, write to Atlas for a copy of the article, "Hygroscopic Agents and Their Use in Cosmetics." (Reprinted from the Journal of the Society of Cosmetic Chemists.)

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Readers' Questions . . .

Ammoniated Dentifrices: *Can you tell me what proportion of ammonium phosphate is used in ammoniated tooth paste.* NEW YORK.

About five per cent of diammonium phosphate, along with three per cent urea are used in ammoniated dentifrices. Unfortunately, the problem of incorporating these ingredients in either powder or paste has never been a simple one: covering the taste of these additives to make a palatable preparation is quite difficult; with paste dentifrices the additional problem is to prevent these salts from altering the physical properties too drastically.

Salt Emulsion: *We are currently using an EKG paste made with about 30 per cent of sodium and potassium chlorides in a methylcellulose base which has proven satisfactory for general use. However, occasional patients react to the high salt concentration and we thought that an emulsified paste might be somewhat less irritating. Can you suggest a formula that might be useful?* BOSTON.

Your problem is a really tough one in that salt concentrations lower than the ones you specify are often used in analytical procedures to break down emulsions to permit extraction of oil. It may be possible, however, to incorporate up to 10 per cent of a suitable vegetable oil in your present paste by grinding in a mortar or preferably in a colloid mill or homogenizer and the dispersion may be stable enough to serve your purpose. If an emulsion can be made in this manner, you will still have to check carefully to see that the conductivity properties of the paste are not adversely affected.

Shaving Cream in Aluminum Tubes: *We manufacture a shaving cream based primarily on stearic acid saponified with potassium hydroxide to which a little sodium hydroxide and triethanolamine are added. The finished product contains a small proportion of excess stearic acid. When packed in aluminum tubes, the shaving cream reacts with the aluminum. What is the cause of this reaction and can it be checked? The use of lacquered tubes is not satisfactory because the coating is not always uniform.* HELSINKI.

Aluminum corrosion is ordinarily at a minimum in the pH range 4-8. Your shaving cream, in spite of the presumed

excess stearic acid is probably too alkaline and if this is corrected your corrosion problems should be lessened if not eliminated, and the cream will also be less irritating. The pH of the product can be reduced by replacing up to 25 per cent of the potassium hydroxide by its equivalent of triethanolamine (seven parts of triethanolamine are equivalent to two parts of potassium hydroxide) and increasing the free fatty acid somewhat. The pH of the product should be checked, with a pH meter, if possible and should be as near to 8 as possible. If some loss of lathering power is noted, some of the stearic acid should be replaced by coconut fatty acids or other high-lathering mixture.

Poison Ivy Treatment: *Do you have any information concerning the use of zirconium anhydride in the treatment of poison ivy dermatitis? We would appreciate some suggestions concerning the incorporation of this compound in a hand cream.* BOSTON.

Zirconium oxide (which may be the compound you have in mind) has been reported to be very effective in treating poison ivy dermatitis, the preparation used being the following:

Zirconium oxide	4.4
Stearic acid	13.5
Potassium hydroxide	2.7
Glycerin	2.3
Water	77.1

The use of zirconium compounds in treating poison ivy is covered by a patent, so that you must communicate with the patent holder to obtain a license before you can market a product of this type.

Non-Alcoholic Skin Freshener: *We would like to obtain a formula for a skin freshener that contains no alcohol. We have a hypo-allergenic line of cosmetics, but some customers object to the alcohol in the freshener.* LOS ANGELES.

It may be possible to obtain some degree of desired astringency in a skin freshener by using 0.5 per cent of boric acid in an aqueous solution free from alcohol. The slower evaporation of a preparation of this type may be disadvantageous, however. In preparations intended for use on very sensitive skins, standard stimulants, such as zinc and aluminum salts, should, of course, be avoided. It may well be that the alcohol itself is not at fault, however, in that the alcoholic lotion is removing too much of the skin oils, which then leads to excessive dryness and irritation. The addition of a soluble emollient may prevent the irritation encountered. You might try a small proportion of an isopropyl fatty acid ester such as the palmitate or myristate.

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Modulan is extremely hydrophobic – does not form greasy emulsions and is practically odorless. Because of its outstanding compatibility with oil-in-water emulsions and with soaps and shampoos, Modulan is particularly recommended for use in creams, lotions, baby products, hair preparations, make-up, and ointments.

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(*Continued from page 550*)

ing extremely stable lotions in conjunction with glyceryl monostearate, cetyl alcohol, stearyl alcohol and many of the other compounds used in emulsion formulation. Gums which have a relatively long negative chain must be excluded; these would include tragacanth, quince seed, pectins as well as sodium carboxymethylcellulose. Gums which do not bear any ionic change seem to work as well here as in other lotion types—for example methyl cellulose.

Since most of the compounds used and obtained commercially are not chemically pure we must expect some free fatty acid to come into the emulsion as an impurity, if nothing else. Since as little of 0.01 per cent stearic acid would produce enough hydrochloric acid—(if a quaternary chloride is used) to reduce the pH to approximately three and larger amounts of free acid would lower the pH still further—(0.1 per cent stearic acid would cause the pH to be lowered to about two)a method of buffering to fix the pH within desirable limits becomes almost a necessity. The easiest method is the use of a salt of a strong base and a weak acid—a good example would be Sodium benzoate or Sodium lactate. Because of the possibility of complex formation, salts of polyvalent acids—borates for example—should be investigated thoroughly before being used. The amount of the buffer used need not be great enough to interfere with the emulsion stability—an addition of 0.1 per cent is usually enough.

On theoretical grounds—at the very least—a good case could be made for the use of quaternary ammonium salts. Their stability at an acid pH particularly renders them a good choice for use in emulsions to which an acid pH is to be imparted. They are also substantive to proteins at acid pH's and as such should impart an effective protective coating to the skin. It can be argued that if one of the protective functions of a hand lotion is to act as a barrier against soapy water during dishwashing—that an agency which is capable of reacting with soaps or other anionic detergents to produce an insoluble complex, would increase the thickness of the barrier when the hands were immersed in soapy water. The excess soap in solution would conceivably wash this barrier away with continued immersion, but certainly the protection afforded would be of greater duration than would be possible otherwise.

Quaternaries in general also seem to produce a rather velvety "feel" after application—having much the same effect on the hands that they do on the hair—and their use as rinses after waving and after shampooing rinses seem to indicate that they do enhance the manageability and smooth "feel" of the hair.

The acid film deposited by the quaternary would afford an easy means of counteracting the ammoniacal odors produced by degradation of perspiration and could be used further to augment the deodorant activity of many of the agencies used for this function, principally the bactericides. The further protection offered is purely a chemical means of neutralizing these odoriferous compounds in case the primary agency used should fail.

A word of caution to those interested in formulations of this type. All quaternaries may not be used without irritational side effects. There is also some evidence that the presence of other substances could greatly increase the irritational tendencies normally displayed. The finished preparation should therefore be checked for any irritation it may cause—both on human subjects and against animals as recommended by the governmental agencies. Quaternaries are still rather new and the manufacturer may not make too many assumptions as to their lack of irritation. A standard check on animals would be a cheap investment towards determination of the product's safety.

PATENT THOUGHTS and TRENDS

(*Continued from page 569*)

RECENT PATENTS

2,692,265—**Amer. Home Prod.—Substituted Glyceinbamides.**

2,692,273—**Upjohn—Steroids.**

2,692,290—**Sprague Elec. Co.—2, 3, 4, 5, 6-Pentachlorophenyl Acetaldehyde.**

2,692,845—**Commercial Solvents—Streptomycin-Glucouronolactone Composition.**

2,692,862—**DuPont—Cleansing Composition having Antibacterial Properties.**

2,692,881—**Hoffmann-La Roche—Benzothiazoles.**

2,692,882—**Upjohn — (5 - Benzyloxy - 3 - Indole) - Alkanoylamides.**

2,692,894—**M. Sahyun—β-Diethylaminoethyl 4-Phenyl-Benzoate Bitartrate. Local Anesthetic.**

2,692,896,7—**Parke, Davis—Production of Acylamido Diols.**

2,692,898—**Organon — Tetrahydrofluorenone. Antifungal compound.**

2,693,433—**Schenley Industries—Picromycin.**

2,693,434—**Farbwerke Hoechst (Germany)—Crystallized Insulin.**

2,693,435—**Chas. Pfizer—Vitamin A Ester Composition.**

2,693,437,8—**Upjohn—Coating Material for Tablets.**

2,693,465—**Hoffmann-La Roche—Manufacture of 6, 7-Dihydro-5H-Dibenz [c, e] Azepine.**

2,693,470—**Hoffmann-La Roche — Benz - Quinolines.**

2,693,475—**Usines Chimiques D. L. F. (France)—Preparation of Precalciferol.**

2,693,476-8—**Pittsburgh Plate Glass—Carboxylic Acid and Cyanoacetic Acid Esters of Sterols.**

2,693,479—**Colgate-Palmolive—Prepn. of Organic Sulfonates and Sulfates.**

2,693,492—**Gen. Aniline—Powerful Ultraviolet Absorbents: 2, 2′-Dihydroxy-4, 4′-Dialkoxybenzophenones.**

(*Continued on page 565*)

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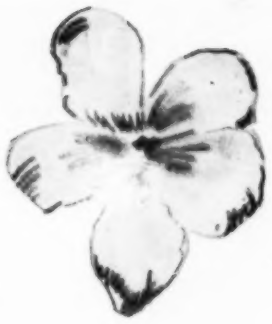

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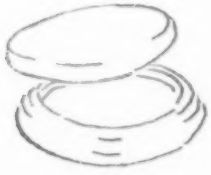
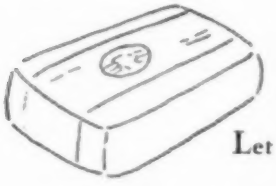


Cosmetics



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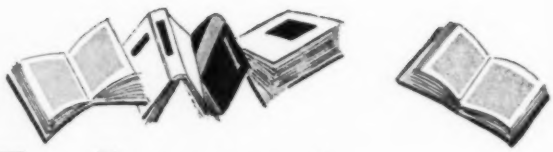

Industry's Books...

Reactions with Drug Therapy, *by Harry L. Alexander, M.D., Emeritus Professor of Clinical Medicine, Washington University Medical Achool, 301 pp., Illus., W. B. Saunders Co., Phila., (1955), Cloth,* **$7.50.** The over-all incidence of drug hypersensitivity as yet remains small. It has been estimated that over 350,000, substances have been employed as drugs. However, relatively few are in common use—a number estimated at less than one thousand. In Chapter III and IV of this work all the drugs that were found to give reactions of hypersensitivity are named. Most appear in subsequent chapters where their described responses are, for the most part, documented. The fact that many of the listed drugs induce reactions infrequently and that others are more or less obsolete has led to separate groupings in several of the tables of those that react commonly and those that cause lesions infrequently. From this arrangement, it appears that comparatively few drugs are responsible for most of the common reactions. If the reader has this in mind, as well as the lesions they induce, he will possess a working knowledge of the subject.

Primer of Allergy,. *by Warren T. Vaughan, M.S., M.D., Illus. by John P. Tillery, Fourth Ed., Rrevised by J. Harvey Black, M.D., 191 pp., The C. V. Mosby Co., St. Louis, pocket size,* **$4.25.**

Textbook of Medicine, *by various authors. Edited by Sir John Conybeare, and W. N. Mann, Physicians to Guy's Hospital, London, 904 pp., Illus., The Williams & Wilkins Co., Baltimore, (1954) Cloth,* **$8.**

Microbiology, *by Louis P. Gebhardt, Ph.D., M.D., Professor and Head, Department of Bacteriology, College of Medicine, University of Utah, and Dean A. Anderson, M.S., Ph.D., Professor of Microbiology, Chairman, Div. of Natural Sciences, Los Angeles State College, of Applied Arts and Sciences, 413 pp., Illus., The C. V. Mosby Co., St. Louis, (1954), Cloth,* **$5.75.**

Catalogus van Chemische Apparatuur, *204 pp., Bureau Voor Bedrijfsdocumentative, Hilversum, Holland, (1953), Cloth* **L 2.10.**

The Practice of Modern Perfumery, *by Dr. Paul Jellinek, Translated and revised by A. J. Krajkeman, Dipl. Ing. Chem., A.R.I.C., 219 pp., Interscience Publishers, Inc., New York, Translated from the German Praktikum des Modernen Parfumeurs, (1949), English Ed. first published (1954), cloth,* **$4.75.**

Chemicalien Adresboek (1954), *349 pp., Bureau Voor Bedrijfsdocumentatie, Hilversum, Holland,* **L 2.10.**

Heart—A Physiologic and Clinical Study of Cardio-vascular Diseases, *by Aldo A. Luisada, M.S., Associate Professor of Medicine and Director, Division of Cardiology at The Chicago Medical School, Second Ed., 680 pp., Illus., The Williams & Wilkins Co., Baltimore, (1954), Cloth,* **$15.**

Collected Papers of the Mayo Clinic and the Mayo Foundation, *Edited by Hewitt, Nerling, Miner, Eckman, M. Katharine Smith, Gambill, Florence Schmidt, and George G. Stilwell, Volume XLV, (1953), published June, 1954, 913 pp., W. B. Saunders Co., Phila., cloth,* **$12.50.**

The Lipids, Their Chemistry and Biochemistry, *by Harry J. Deuel, Jr., Dean, Graduate School, and Professor of Biochemistry, University of Southern California, Volume II: Biochemistry, 919 pp., Interscience Publishers, Inc., New York, (1955), cloth,* **$25.**

Organic Chemistry, *by Lewis F. Hatch, Professor of Chemistry, The University of Texas, 324 pp., Illus., McGraw-Hill Book Co., Inc., New York, cloth,* **$4.50.**

Organic Reactions Volume VIII, *Roger Adams, Editor-in-Chief, 437 pp., John Wiley & Sons, Inc., New York, (1954), cloth,* **$12.**

Handbook of Emergency Toxicology, *(A Guide for the Identification, Diagnosis and Treatment of Poisoning), by Sidney Kaye, B.S., M.Sc., Toxicologist, Office of the Chief Medical Examiner, Commonwealth of Virginia, 303 pp., Charles C. Thomas, Publisher, Springfield, Ill., (1954), cloth,* **$5.75.**

Introduction to Microorganisms, *by LaVerne Ruth Thompson, Associate Professor of Nursing Education, Teachers College, Columbia University, Third Ed., Illus., 552 pp., W. B. Saunders Co., Phila., (1954), Cloth,* **$5.25.**

Statistical Analysis in Chemistry and the Chemical Industry, *by Carl A. Bennett, Chief Statistician, General Electric Co., and Norman L. Franklin, Lecturer in Chemical Engineering University of Leeds, 724 pp., John Wiley & Sons, Inc., New York, (1954), Cloth,* **$8.**

Laboratory Manual on Fundamental Principles of Bacteriology, *by A. J. Salle, B.S., M.S., Ph.D., Professor of Bacteriology, University of California, Fourth Ed. 176 pp. McGraw-Hill Book Co., New York, (1954), Cloth,* **$3.50.**

Fiberglas Reinforced Plastics, *by Ralph H. Sonneborn, Technical Service Department, Plastics Reinforcement Div., Owens-Corning Fiberglas Corp., and Contributing Authors, Albert G. H. Dietz, Sc.D., and Alton S. Heyser, First Ed., (1954), 241 pp., Reinhold Publishing Corp., New York, Cloth,* **$4.50.**

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Trade Literature

Hexachlorophene Bibliography

A completely revised, comprehensive bibliography of the literature on G-LL (hexachlorophene) has been published by Sindar Corporation, 330 West 42 Street, New York 36. Dated March 1955, this Technical Bulletin H-1 contains references and abstracts of some 136 scientific and trade articles, and abstracts of 19 patents, both foreign and domestic.

Bulletin on Control Valves

Rockwell Manufacturing Company (Meter and Valve Division), 400 Lexington Avenue, Pittsburgh 8, Pa., has issued a six-page bulletin (O.G. 454) describing methods of industrial metering with multistage quantity control valves, which are available in iron, steel, 316 stainless, and bronze.

T.G.A. Booklet

The Toilet Goods Association, 1270 Avenue of the Americas, New York 20, has issued a booklet entitled, "Good Grooming for the Women in the Armed Forces," and has supplied the Department of Defense with enough copies so that every woman in the Armed Forces in all parts will receive a copy. The booklet was written by Myra N. Conklin, well-known beauty expert.

Parenteral Administration

Abbott Laboratories, North Chicago, Ill., has issued a 56-page booklet on Parenteral Administration—Techniques and Equipment. This booklet, illustrated throughout with sketches, and printed in two colors, gives about all the information on the subject that could be given.

Bulletin on Stainless Steel Tanks

Plant operators interested in small stainless steel tanks for storing or mixing liquids might well send for the two-page, illustrated bulletin (Bulletin G-502) issued by Cherry-Burrell Corporation, Department JC-8, 427 West Randolph Street, Chicago 6. It describes their new type 0 stainless steel single shell tanks. Complete information is given on three models—equipped for storage without agitation, side mixing or bottom mixing—ranging from 60 to 500 gallons capacity.

Career Brochure

The career brochure, "Shall I Study Pharmacy?," is available from the American Association of Colleges of Pharmacy and may be obtained from R. A. Deno, Secretary of the Association, University of Michigan, College of Pharmacy, Ann Arbor, Michigan. This 32-page, profusely illustrated, two-color booklet is available at the following schedule of prices which represent the cost of publication: Single copy 35 cents; three for $1.00; ten for $3.00; 20 for $5.00; 100 or more, $20 per hundred; 1,000 or more, $180 per 1,000.

The booklet now available is a second edition which represents extensive revision of the first one. The Association is eager to have the booklet in the hands of all guidance councellors, science teachers, and libraries which may make use of it.

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(Continued from page 558)

2,693,983—Pharma-Craft — Aerosol Deodorant Bottle.

2,694,031—Lovens kemiske (Denmark)—Hydroiodides of Amino Esters of Penicillin and Oil Composition Thereof.

2,694,058—Hoffmann-La Roche—Polyuronic Acid Derivatives.

2,694,061-3—Lovens kemiske (Denmark)—Amino-alcohol-and Heterocyclicalkyl Esters and Quat. Ammonium Addition Salts of Penicillin.

2,694,066—Research Corp.—Lipoic Acid Amides of Thiamine Compounds.

2,694,067-8—Merck—Δ^6-Desoxymorphines.

2,694,069—G. D. Searle—Basic Esters of Hydroxy- and Alkoxy-Substituted Phenyloxoalkenoic Acids.

2,694,071—Parke, Davis—Prepn. of Technically Valuable Oxayolines.

2,694,078—Upjohn—$\Delta^{17(20)}$-Steroid-20-Acylate by Isomerization.

2,694,079—Upjohn—α, β-Unsaturated Ketosteroid by Dihydrohalogenation.

2,694,080—G. D. Searle—11-Hydroxy-13-Methyl-17 - (β - Hydroxy - ethylidene) - Tetradecahydro - 15H-Cyclopenta [a]-Phenanthrene-3-One.

2,694,086—Colgate-Palmolive — Sulfonation of Poly-Alkyl Substituted Aromatic Hydrocarbons.

2,694,088—Cutter Labs.—Alkenoxybenzamides.

2,694,092—N. A. Miles—Conjugated Diacetylenic Dihydroperoxides.

2,694,642—Schenley Industries — Thiamine - Enriched Alimentary Paste.

2,694,663—Calif. Research Corp.—Synergistic Microbicidal Compositions.

2,694,664—Am. Home Prod.—Choline and Inositol Prepn. Containing a Surface-Active Agent.

2,694,665—Upjohn—Procaine-Penicillin G Composition.

2,694,667—Am. Cyanamid—Recovery of Vitamin B_{12}.

2,694,668—Abbott Labs.—Liquid Multiple Vitamin Prepn.

2,694,669—Abbott Labs.—Stabilized Selenium Disulfide Therapeutic Shampoo.

2,694,679—Merck—Prepn. of Vitamin B^{12} Analogs.

2,694,705,6—G. D. Searle—Amino-alkanoylphenothiazines.

2,694,710—Lepetit (Italy)—Purification of Folic Acid.

2,694,711—Amer. Cyanamid—Quinazolone Antimalarials.

2,694,719—J. Applt—Stabilizing Ascorbic Acid with Alkali-Thiosulfate-Carbamides.

2,694,731,7—Rayonier—Phenolic Ethers and Dialdehydes.

2,695,259—Union Francaise — Dermatologically Harmless Hair Dyeing Cream.

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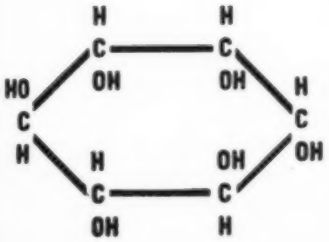

Inositol, of interest in many biological systems is a pure, crystalline, naturally-occurring component of the vitamin-B complex. Its relationships to cholesterol and fat metabolism and its existence in physiologically important phospholipids are evidence of its significance as a nutritional factor.

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2,695,261—**Burroughs William—Prepn. of Polymyxins A, B, & E.**

2,695,285—**Distillers Co.—Drying Streptomycin.**

2,695,287,8—**Merck—Isoallospirostanes.**

2,695,290—**Hoffmann-La Roche—Indole Derivative.**

2,695,291—**J. B. Niederl—Pol-Alkoxy-Morpholinium Alkyl Sulfates.**

2,695,293-5—**McNeil Labs.—N, N'-Substituted Diamines.**

2,695,297—**Merck—N-Pyridoxyl-Amines.**

2,695,305—**Farbwerke Hoechst — Mercury Compounds of Para-Amino Salicylic Acids. Diuretics.**

2,695,317—**Sterling Drug—2, 2'-Dihydroxy-3, 5, 5'-Trichlorodiphenyl Sulfide.**

2,695,859—**Shell Dev. Co.—1-Chloro-3-Bromopropene-1. Soil Fumigant.**

2,695,860—**Am. Cyanamid — Stabilized Pteroyl Solutions.**

2,695,861—**Armour—Insulin Preparation.**

2,695,862—**Merck—Vitamin B_{12} Process.**

2,695,863—**Purdue Research Found.—Alpha Amylase Process.**

2,695,881—**Monsanto—Antiseptic Soap.**

2,695,902—**Merck — 2 - Methyl - 3 - (B - Chloroethyl)-4, 6-Dichloropyridine.**

2,695,904—**Monsanto — N - Phenyethyl 2 - Arylthiazole Sulfenamides.**

2,695,906,7—**Upjohn—Steroids.**

2,695,919—**Upjohn—Aminoalcohols.**

2,696,454—**Schenley Industries—Parenterally Administrable Aqueous Solutions of Sulfa-Compounds.**

2,696,455—**Pemco Products—Cadmium Compositions for Roundworm Control.**

2,696,456—**Lambert Co.—Dual Element Suppository.**

2,696,457—**Am. Cyanamid—Patulin Production.**

2,696,484—**Ortho Pharmaceutical Corp.—Separation of the Oxytocic Principle of the Posterior Pituitary.**

2,696,487—**C. F. Geschikter & L. M. Rice—1, 3-Diaminopropanol-2 Salt of Theophylline.**

2,696,488—**F. E. Anderson—2, 4, 6-Tris-(1-Piperidyl)-5-Benzylpyrimidine.**

2,696,490—**Glidden—Steroids of the C19 Series.**

2,696,491—**Schenley Industries—Solubilized Sulfathiourea Salt of Homosulfanilamide.**

2,697,060—**A. Sherman—Emulsion of the Essential Oil Derived from the Western Sagebrush. For treatment of human mucosa and skin.**

2,697,095—**Farbwerke Hoechst—Penicillin Salts of Glycine-Diphenylamides.**

2,697,096—**Schenley Industries — Production of Substituted Pyridinium Compounds.**

2,697,106—**Upjohn—Selective Reduction of 3 Keto $\Delta^{4,6}$ Steroids.**

2,697,107—**Farbwerke Hoechst—Prepn. of Chloramines of the Steroid Series.**

2,697,108—**Syntex (Mexico)—16-Thiobenzyl Pregnenes.**

2,697,109—**G. D. Searle—16-Nitromethylpregnen-20-Ones.**

2,697,110—**Upjohn — 17β - Hydroxy - 17α - Methyl-etiocholane-3, 11-Dione.**

2,697,111—**Eastman Kodak—Stabilization of Fats and Oils with Tetraoxy Derivatives of Biphenyl.**

2,697,695—**L. McDonald—Sudless Detergent.**

2,697,704-6—**Upjohn—Adducts of Pregnatrien-20-Ones.**

2,697,708—**Burroughs Wellcome — 2 - Mercapto - 4-Hydroxy-5-Phenoxy Pyrimidines.**

ELEGANCE IN PHARMACEUTICAL PACKAGING

(Continued from page 487)

Other families of the Roche line have different color combinations, but they use the same format. The di-Penta Drops Package, for example, is designed in brown, red, buff and white.

Ciba Pharmaceutical Products Inc. has redesigned 385 packages of all sizes comprising some 45 items. The company takes equal care with both its over-the-counter and prescription products in package design.

E. R. Squibb & Sons has made very few changes in its ethical packages through the years, having maintained the well-known buff and brown combination, along with the trade-mark of "Uniformity, Purity, Efficacy and Reliability" in a gold circle interrupting the band. Squibb has always had this family design.

Eli Lilly & Co. has kept close to its regular package design as well, displaying the distinctive green and white labels. They are now making some new designs.

Lederle Laboratories has simplified its labels, making them more legible. Among other improvements, the company has provided the added convenience of packing capsules and tablets in the Century-Pak for bulk sale. Moisture-proof plastic bags of 100 capsules each are packed in a larger container. This simplifies counting of the tablets and also protects the product.

Abbott Laboratories, Parke, Davis & Co., G. D. Searle & Co., Chas. Pfizer & Co., and Sharp & Dohme to name just a few of the important pharmaceutical houses, are all very conscious of adding elegance, dignity and quality to their package designs. In addition to helping the sale of their own products, these firms believe that the new designs are all to the good of the ethical pharmaceutical industry, for they help to keep it at a dignified, highly respected level.

PERFUMING PROBLEMS

(Continued from page 471)

fuming the various toiletries and cosmetic bases that presents itself to the scientifically working perfumer would look like this.

A perfume oil, developed and artistically finished by the perfumer, is found to send out a fragrance type

well liked. It is therefore incorporated in alcohol, say four parts of perfume oil to 80 parts of alcohol and 16 parts of water, and aged to make a finished toilet water. What is appreciated when this solution is smelled is the harmoniously blended perfume oil, theoretically speaking, diluted and therefore weakened to 1/25th its original strength, but in practice lifted to a multiple of its own power of diffusion. For, each part of perfume is intimately fused with twenty parts of a practically odorless, very easily evaporating lifting agent, the alcohol, whose vapors have an extremely high rate of diffusion into the air. This agent, therefore, acts to further reinforce, practically to a maximum, the high rate of odor diffusion already possessed by a well compounded and artistically finished perfume oil itself. The odor particles emitted by the perfume oil ride into the atmosphere on the back of their ally, the alcohol waves, into the nostrils until they hit the odor receptors in our noses.

Try and get the same odor effect by incorporating the same perfume oil in the next item—for instance—Dusting Powder. Still *disregarding chemical* aspects, the picture presenting itself would then be this.

It is improbable that any manufacturer can afford to incorporate more than a very low percentage of perfume oil, say one per cent, in a talc or dusting powder. However, in a powder, the lifting and diffusion action of the alcohol is missing. The small amount of perfume oil distributed in the powder is incorporated in undiluted odor strength into a medium that consists of millions of tiny particles of more or less absorbent nature. At best the perfume could cost each particle with a film of submicroscopical thickness which serves as the source of odor emission—at worst the perfume oil is absorbed by and swallowed inside the particles where it fraternizes with the somewhat earthy odor note usually found in talc. In either case, the perfume vapors trying to migrate in the direction of our nostrils have to work their way up between and around millions of packed particles before reaching the powder surface from where they can take off for the trip to your nose. Even if it were conceivable to picture that all perfume ingredients were released unattacked and chemically unchanged by the talc particles, and that they would travel as the harmonious odor blend the perfume oil originally was—the effect of odor travel of the evaporating perfume oil and of its perception is bound to be different from that of the alcohol-motored odor particles in the toilet water. And believe me, it is.

That's only *one* reason why the perfume oil going into powders has to be of a composition entirely different from that going into toilet water, with a different rate of odor diffusion. In this case, the driving and diffusing force of the alcohol must be built into the perfume oil itself to compensate for the absence of this valuable ally in powders.

The foregoing just illustrates the physical differences of two typical products of a toiletries line and points up the problems with which the perfumer is faced in this respect only.

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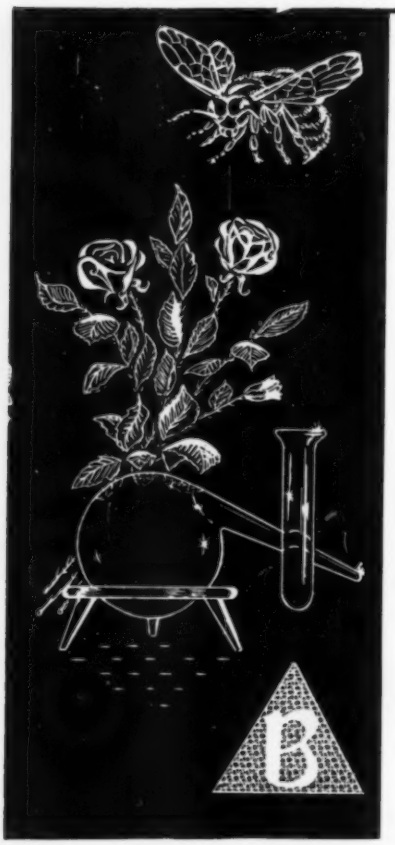
There is another important point to be considered, which is—the nature of the packaging material. Alcoholic toiletries items, such as perfumes, toilet waters, shaving lotions, colognes, are marketed in glass bottles. If the closure has been properly selected, there is nothing to be afraid of. The perfume odor will stay inside, protected from the oxidizing effect of the outer air, as long as the bottle is kept closed. However, it is common practice to market powders in cardboard boxes. Cardboard, as everybody knows, is pervious to gases, both odorless and odorous gases. Even though special types of cardboard are less pervious than others, the fact still remains that the perfumer is faced with conditions working against retention of the perfume by the powder. For, cardboard is a two-way street for permeation of gases and the gases on both sides of the cardboard, inside and outside the box, certainly take advantage of this easy road to travel in opposite directions. Air travels into the box and exerts an oxidizing effect on perfumes. It would certainly attack certain perfume ingredients which are known to the perfumer to have no place in a powder perfume; yet most probably, such ingredients would be present if the perfume oil made up for use in alcoholic media was just incorporated in the powder without modification or testing. Fast deterioration of the powder's perfume odor would have to be expected for sure in this case. The other action working towards a breakdown of the odor would be the loss of fragrance and especially of the most volatile odor parts, by permeation of the perfume vapors through the cardboard box into the outer air. This is another good reason why perfume oils used for perfuming powders must necessarily be made up specially to fit the particular conditions of the contents and the packaging material.

Most of you now think that at this point we should be ready to speak on the effect of chemical composition of the cosmetic ingredients on the stability of a perfume and its odor. We are not ready yet, as there is one other point which is neglected only too often, yet is apt to spoil the most accurate and intricate work of a creative perfumer. That is—the odors inherent to the chemical substances used in the cosmetic base.

A cosmetic base naturally has to consist of chemicals, and chemicals *do* have an odor of their own when judged by the Perfumer's standards. The perfumer knows the odor of these individual chemicals if they belong to the group of substances available as so-called "Cosmetic grade" and can devise his perfume in such a way that these odors are covered or built into the final odor perception of the perfumed product. I happen to be in the fortunate position of being able to apply both the perfumer's and the cosmetic chemist's views in the development of a new item. It should therefore be understood the way I'd like it to be understood, if I send out an admonition to those cosmetic chemists who think they can decide by themselves what is to go into a new item without consulting with the perfumer beforehand



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about the odor problems presented by some of the cosmetic ingredients. The perfumer can create beautiful odors, but he is no magician who can cover *any* kind of objectionable odor. It is wiser and often simpler to leave out a cosmetic chemical or replace it with a better grade, if its own chemical odor is likely to spoil the beauty of a fragrance, than to insist on its presence in the cosmetic base and to hope for a miracle by the perfumer later.

MEDICAL FILMS IN PHARMACEUTICAL PROMOTION

(Continued from page 469)

tually released under the auspices or name of the particular medical school where the investigator is on the Staff. This procedure will bring a greater acceptance to the lecture film.

There is much material presented in conferences on single medical problems that is never made available adequately to the practicing physicians of the country. A significant contribution can be made by providing the results of these meetings to the thousands of physicians throughout the country who are so interested. In effect, all physicians could sit at the conference table. Physicians appreciate such a contribution and seek out the opportunity to view such films. As valuable films of this type are increased in number, so the audiences too will increase in number and make promotion films ever more effective.

Distribution of films deserves consideration. This has always been a factor in films and it certainly is a very serious one in the pharmaceutical industry. Distribution problems can be overcome in a number of ways. One method is to regularly distribute information on available films to the Program Chairman of hospital staff groups, Veterans Administration, County Medical Societies, and in fact, any medical group meeting together that has the possibility of using the company's product now or some time in the future. Cooperation with the American Medical Association should also be considered because its Committee on Medical Motion Pictures* can be extremely helpful in launching a film through a good review in their journal. The A.M.A. also has a film section both at its June and December meetings. A large number of films are shown at these meetings and are viewed by a good audience. In addition the consul and advice of the Committee on Medical Motion Pictures has proven to be of great value to many phymaceutical companies when preparing a film.

In providing the various program chairmen with a list of available films it would often be helpful to them if a suggested evening's program would be listed and other aids be given in selecting and preparing programs. Listings of films can be included in the company's mailings without adding any significant additional costs. The films can be advertised in medical journals and in

* Mr. Ralph Creer, Secretary

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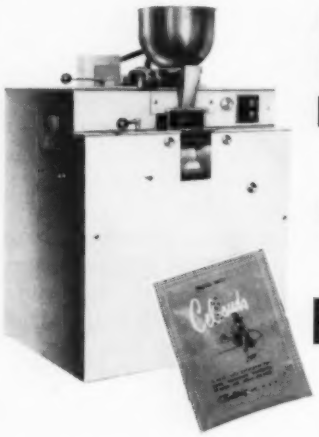

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this way brought to the attention of many physicians and groups that may not be reached through other methods. The medical detail man can aid in securing film showings through his contacts and by bringing the films to the attention of groups in his territory. In many cases, he may also help by showing the film and being present as a representative of the company. In such cases, it is advisable to utilize the evening to the fullest extent and small scientific exhibits can be used in the room where the films are shown. Literature can be given out to the physicians as they leave the meeting. This gives several more opportunities to bring the company's product and the results of their research to the attention of the practicing physician.

The two charts (page 469) shown were prepared from a survey conducted in 1952 by the A.M.A. Committee on Medical Motion Pictures.

It is interesting to note in Chart No. 1 that 91 per cent of hospitals over 200 beds owned a 16 M.M. Sound Motion Picture Projector. This was true in 1952 and now in 1955 it is obvious that a much higher percentage of hospitals have projectors available. Chart No. 2 demonstrates that 76 per cent of the hospitals over 200 beds had increased their use of films from 1947 to 1952. It is estimated that a much greater increase has occurred in the past three years. The increase in the use of films can be noted for example from the fact that films were supplied on 1,572 occasions to medical groups by the American Medical Association in 1951 and in 1954 on 2,845 occasions.

We can make a rough calculation of the number of physicians who can be shown a single film through the efforts of detail men, without considering the many other methods we have discussed of securing film showings. If the company has 300 representatives, each should be able to arrange a minimum of eight showings per film in a single year. Then if we are conservative and say that the average audience would be only 15 physicians, we have conservatively reached an audience of 36,000 physicians with a single film. Several experienced executives in this field are of the opinion that these calculations are too conservative. We have not considered here the number of prints required for each film. There are several reputable film distributing firms who handle this problem well at a total cost of $2.00 to $2.50 per booking. In this calculation we have not considered the additional opportunities for showings that are available. How does this possibility compare with other methods of promotion for cost, audience reached, and the amount of material absorbed by the physician? For the hour of effort, and the dollar of time and expense, films provide one of the best opportunities we have today in the pharmaceutical industry.

No doubt we will soon see the first medical journal or pharmaceutical house organ done on film and made available quarterly or monthly to all medical groups. A single issue could be devoted to the current work of a great research center, much as the Clinics of North America utilize this idea. Or, the issue could be devoted

to a single medical problem, or to a series of interesting reports. Perhaps a conference or clinic could be included from time to time. The Medical and Research departments of the company can present their work and the contributions that they have made to medicine. Short advertisements done at a good scientific level and presented from the Research or Medical Department could serve to promote the company's product further.

Films present a less competitive outlet for promotion effort. With the many possibilities utilized as discussed here definite advantages in some respects can be realized over journal advertising, mailings, conventions, papers presented at medical meetings and in medical journals. Films can be very valuable members of the promotion team. This type of film program can only be utilized well by the company with a highly developed chemical, pharmacological and clinic research program. Without research the company would have little to present that would pay the practicing physician for viewing the films.

SAGA OF A NEW HORMONE

(Continued from page 465)

nose-drop preparation. He changes its name and sends twelve bottles of nose-drops, together with a spray applicator, to the physiologist.

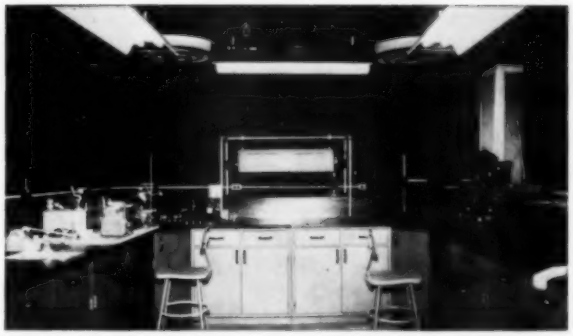
The clinician receives samples of the pharmacologist's product for test in patients who have head colds. He finds it only mildly effective in the relief of nasal congestion, but is amazed to discover that three of his head cold sufferers who are also the victims of a rare blood disease, have suddenly been dramatically cured. He gets the Nobel prize.

THE SUNTAN INDUSTRY

(Continued from page 480)

The figures speak for themselves; the reader must make his interpretations and form his own conclusions. The immense disparity between the southern and northern states would seem to constitute a highly fertile field for exploration. Of specific interest to the suntan industry is the role, if any, that sunlight plays in this life and death drama. Although clearly apparent, the writer would like to stress that the incidence of neoplastic deaths appears to be in an inverse ratio with the annual hours of biologically active sunshine. This phenomenon as can be seen, is amazingly consistent with but one exception, Florida, and even for this there is a simple explanation. It should be pointed out that the bulk of the Florida population are not really Floridians, but are immigrants, and relatively recent, from all parts of the United States.

Certain quarters have suggested that cancer mortality rates are lower in the southern states by virtue of the fact that large segments of the population therein failed to obtain medical care, or that the cause of death is erroneously certified. This sort of dismissal is no longer acceptable or valid. Admittedly, medical facil-



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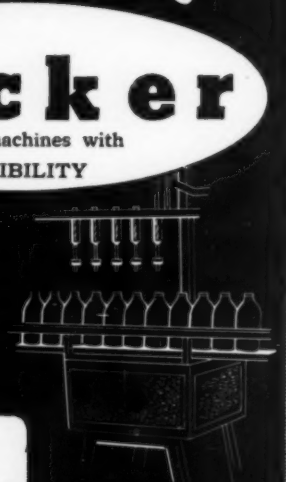

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ities today are not entirely homogeneously distributed over the entire nation, but whatever inequality exists, it is incommensurate with the remarkable differentials for cancer mortality.

Relative to the foregoing, Peller and Stephenson[36] offer provocative comments on cancer in the United States Navy, summarized thus: due to the greater frequency of skin cancer and the lesser frequency of internal neoplasms, the mortality rate between the ages of 25 and 64 is about 50 per cent less than that which would be expected from age, sex and color, as compared with cancer rates for New York City for 1930; the skin and lip morbidity among active navy personnel is several times as high as in the civilian population, which is attributed to greater exposure to skin irritants, especially sun, salt water and wind. In continuation of this trend of thought, Peller, Stephenson and Souder[37] state that in the United States Army and Navy, the incidence of skin and lip cancer has been found to be several times higher and that of internal malignancies substantially lower than for a comparable group in civil life in such cities as Chicago, London or Vienna. The authors present an interesting summation as follows:

1. White persons in the armed forces of the United States army exhibit a markedly different distribution of primary malignancies from those born north of the 40° latitude. In the group born in the south, 49.9 per cent of all cancers originate on the skin or lip, while in the group born north of the 40° latitude, the surface of the body accounted for only 27.4 per cent of their malignancies.
2. The higher frequency of cancer of the skin and lip and the lower incidence of internal neoplasms and the low cancer mortality of the age groups 20 to 64 years, in the Army and Navy, depends essentially on the exposure to dermatropic climate conditions, in childhood, adolescence and adulthood.
3. Exposure to their (Army and Navy personnel) actinic conditions during adolescence and youth seems more important in its effect upon the incidence of surface cancer, internal cancer and total cancer mortality, than is exposure to same conditions during adulthood.
4. A systematic exposure to ultra-violet rays during childhood and adolescence may become an effective measure of preventive medicine in combating neoplastic disease as a cause of death.

Peller et al, in their summation spotlight two major thoughts: exposure to large doses of sunlight during childhood, youth and early adulthood is unquestionably instrumental in the higher incidence of dermatologic neoplasms than that found under conditions where there is less opportunity for such irradiations; simultaneously, these early and sustained exposures, in some mysterious manner seem to prevent the initiation of internal malignancies, as evident from Army and Navy studies. The foregoing coincides and is compatible with

the statistics in Table 9 which appears on page 480.

The writer neither supports nor refutes the intriguing theories set forth by Peller et al, although it should be said that the medical profession has looked unfavorably upon same. However their experiences and statistics plus the life insurance data previously given in Table 9, should in concertation comprise a powerful stimulus for deep investigations along these lines. For the suntan industry to employ a promotional theme that long exposures to sunlight during childhood, adolescence and early adulthood might confer some degree of immunization from this fiendish disease would be unadvisable. Proof is not yet sufficient nor accepted. Unquestionably such publicity would precipitate a mad stampede to the sun and undoubtedly the suntan industry would profit thereby. We have brought into focus a fascinating aspect of an unproven relationship between solar radiation and the most fearful scourge of civilization. The suntan industry should be interested for both academic and material motives.

How Much Market Expansion. The immediate and distant horizons for the suntan industry are vast. The present sale of approximately 14 million units of suntan products, in relation to 100 million sunbathers with an estimated total of 1,000 million (1 billion), participations, is, to say the least, invisibly thin coverage. The number of heliophiles will multiply. The factors assuring such growth are improved economic conditions; education elucidating the benefits of outdoor pursuits during summer and winter; automation providing greater leisure time; substantial and continued population increment; cheaper, faster and augmented transportation facilities. A few brief comments on the above would be in order. For instance, while our population has increased 25 per cent since 1939, the number of jobs in America has gone up by 36 per cent (Institute of Life Insurance). Since 1946, our population grew by more than 20 million; prior to 1946, it took 17 years to produce such an increase.

As was brought to attention earlier, three large, Eastern wholesale drug houses volunteered the information that for every dollar spent for the prevention of sunburn, ten dollars were invested in products for the treatment of same. On a relative basis therefore, it would seem that for every person who does resort to a sunburn preventive, ten do not. This is not strictly true since the cost of the products are not parallel by any means. The concensus seems to indicate that about one out of every twenty sunbathers employs a sunburn preventive. Credibility for this figure is supported by the huge sums spent for agents useful in the treatment of solar burns, or about 70 million dollars. If this latter group, i.e., the 19 out of 20 persons who for whatever reason do not employ artificial aid to protect them from excess ultra-violet radiation, could be convinced that it is to their cosmetic, dermatologic and financial advantage to prevent solar burns, the suntan industry would gross many times the present seven million dollar volume. If only 25 per cent of

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the above 19 persons were reached, the total suntan business would rise to about 28 million dollars—a most attractive objective and most feasible. According to one financial writer, over 12 per cent of our national income is now devoted to vacation expenditures. Our total national income and income per capita are the highest in American history. The harbingers of opportunity for the suntan industry have been partly illuminated. Indifference will mean the continuation of the present slow growth; an active interest translated into concrete action will quickly rebound with an immediate and appreciable expansion of the present seven million dollar volume.

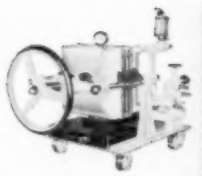
Retarded Suntan Expansion. The question, "why has not the suntan business grown faster in view of the existent potential volume," might very logically be proposed at this point. The answer lies in several interrelated facts: sunburn preventives were conceived and born in fraud, or if that word is too strong, we may substitute "incompetency." Devoid of any or but slight protective capacity, they were foisted upon a gullible public with the implied or expressed claims that their use would protect the purchaser from painful sunburn. Confidence in these products quickly repercussed in solar burns ranging from unpleasant to disastrous. Thus, during the early adolescent years, the suntan industry acquired thereby a highly tenacious reputation of deceit and unreliability, which has not yet been entirely dissipated.

The writer has, at the retail drug counter, been confronted with the frank statement that all sunburn preventives were worthless; or a parallel experience is the request for a bottle of "X" lotion accompanied by the question could the author recommend something a little more effective. Indubitably, the failure of the early products to provide any measurable protection has very materially retarded the normal growth of the suntan business. Happily those pioneering days are over. Sunburn preventives today, in the main, are competent and, can and do supply the therapeutic function for which they were created. Those in the industry are aware of the excellence of their individual preparations and are confidant of their ability to offer comprehensive defense against excess insolation. Unfortunately the public does *not* know this, and being governed by past experience, has no reason to assume that the modern product is any different from that of the past. Literally no effort has been made to acquaint the countless followers of Aton-Ra that immunity from excess irradiation is today available. This is another keystone factor responsible for the poor showing made by the suntan industry over the past ten years, during which period there were a number of legitimate, meritorious products in the hands of the American druggist. Millions of heliophiles would have been grateful for the opportunity to purchase this merchandise, had they been convincingly informed. The outdoor world was not acquainted with the progress made in this dermatologic field inasmuch as the type of promotion employed by the suntan

manufacturer has been, frivolous, impoverished and uninformative.

Past Promotions. The advertising utilized by the suntan industry since the early days has been monotonously ineffective. Basically, it consisted of a bathing suit surrounding the legal minimum of a girl with a pretty face and a well-engineered body. Somewhere in the picture was a bottle or tube of suntan lotion or cream and several meaningless words about tanning or burning. No one will disparage the power of a beautiful face and an exciting anatomy in American advertising, but this should serve only to attract the eye for the conveyance of a message. Thus far the suntan industry has tendered no message. In all probability, the responsibility for the vacuous promotions emanating from various manufacturers, may be traced back to the agencies charged with the creating and placement of such material. With possible exceptions, these organizations are devoid of any scientific data relative to the multitudinous aspects of sunbathing, suntanning and sunburn. This is a situation the suntan industry must quickly and radically alter, if they wish to render a public health service and incidently be handsomely compensated for same.

Methods of Increasing Suntan Volume. Future efforts to increase the use of sunburn preventives must be characterized by a more comprehensive and constructive attitude than that of the past. The beautiful girl theme, by itself, has been proven to be inadequate and ineffective. The public must be made the target of a saturated offensive, disseminating interesting, informative data relative to sunbathing and its ramifications. This material should be succinct and digestible at all mental levels. While the suntan industry with its seven million dollar volume could hardly be called big business by today's standards, a public relations bureau is not beyond its reach. Such an organization, supported by all concerned, should be composed of a public relations expert plus a technical adviser. Together, their duties shall be to broadcast an inescapable blanket of written and spoken words telling the story of the sun. The public should be told through the media of radio, television, newspapers and magazines that those who wish to invoke the blessings of the sun-god must not yield themselves too freely since their adoration can be repaid by destructive as well as beneficient awards. The indulgence in outdoor activities should be encouraged to the fullest extent but at the same time certain cautions should be stressed. Tell the millions of eager devotees that intelligent sunbathing will reward them with improvement in skin tone, a concealment of skin blemishes and a bronze tan which will perform miracles in their business and social lives. Emphasize that play in the sun is healthful, that they may expect an increase in vitality, stamina and a general elevation of body tonicity. They will become more cheerful and experience a distinct psychologic lift. Point out that the sun, directly or indirectly, warms, clothes and feeds us and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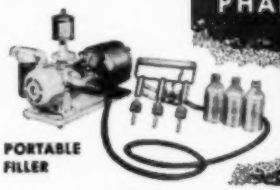
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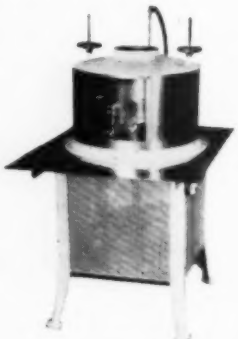

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that therefore this bright yellow light pervades in one way or another every phase of life. After extolling the virtues of solar radiation, the dangers should be exposed without fear or favor.

Equally emphatic, advise the present and future members of the sun-cult that a severe burn can and will result in total incapacitation, forcing abstinence from the usual round of summer activities and fun, not for a day but possibly for a full week or two. Drive home the fact that a serious burn will deprive the victim of the ability to tan not only during the summer in which the injury was incurred but for a number of summers thereafter. State with authority that repeated excessive exposures will quickly exact payment for insult to an important body organ, the skin. Revenge will assume the form of an ugly, blotched, wrinkled and aged skin with the appearance of warts and other unsightly manifestations of damage. Explain in detail an unrecognized phenomenon, that even if a sunbather seems immune to long unprotected exposures to sunlight, such abnormal irradiations can in time repercuss in a host of embarrassing skin diseases. As a final warning, assert that repeated or sustained ultra-violet irritation can in the extreme pave the way to neoplastic changes or skin cancer at some later date.

The foregoing is necessarily brief and is intended only to serve as a nucleus. This type of material could also be incorporated into a small booklet or phamphlet for distribution through the druggist and other outlets for suntan products. The negative aspects of the foregoing material will not be inimicable to the suntan industry but on the contrary will elicit thanks for bringing into focus the Jekyll and Hyde character of sunlight.

Methods of Sunburn Prevention. If and when the suntan industry wishes to stimulate an awareness that solar burns can and should be avoided, there are two methods by which such an objective may be attained: either by the restriction of initial exposures to within safe tolerances for untanned skin, and the exercise of caution thereafter, or by the employment of an effective sunburn preventive. Voluntary control has not and probably will never be successful. It is practically impossible for the layman to associate the warm, relaxing, sensual pleasure accompanying sunbathing, with danger. There is no warning until the damage is accomplished. Even if the sunbather were aware of impending injury, the average person would ignore same. Another reason why it is difficult for the individual to control exposures to within safe limits is the fact that neither the public nor the physician has any idea of what constitutes a safe irradiation for average untanned skin.

Obviously, the sensible person who has been convinced that ultra-violet excesses are something that should be assiduously avoided, will resort to suntan products to achieve such an end.

In view of the indifference, carelessness and ignorance attending modern sunbathing, as evidenced by millions of ravaged skins, the dissemination of the type of in-

formation outlined would be a public health service of the first magnitude and would be rebound in a grossly expanded suntan business.

REFERENCES

36. Peller, S. and Stephenson, C. S., American Journal Hygiene, Jan., 1939, page 34-59.
37. Peller, S., Stephenson, C. S. and Soudar, C. G., American Journal Hygiene, vol. 32, No. 1, Sec. A., pp. 39-44, July, 1940.

ACCELERATED SHELF TESTING

(Continued from page 473)

dictions of stability, merit scrutiny and can yield other valuable information. Finally, the residual group, which yields no rational data can also be used with discretion. There is always a guarded maximum prediction of shelf-life possible, since the material will perform no worse, and usually better, at lower temperatures than at higher ones and, from the general trend, it is possible to make a cautious extrapolation. Furthermore, the data of such accelerated test can be used to spot-check later lots for uniformity.

To attempt to establish an overall factor for temperature acceleration is foolish. While the rule of two- or threefold acceleration is valid in a number of cases some decomposition reactions are virtually uninfluenced over a 10° temperature range while others, such as the denaturation of proteins, undergo such fantastic accelerations as 100 to 500 fold. The general procedure recommended is to set up a planned schedule of accelerated tests for each product. This will require at least 15 or 20 determinations but these can be performed by laboratory technicians and little time and equipment is involved. The planning and evaluation should be done by a competent chemist, versed in reaction kinetics. A large proportion of these studies may well result in quite exact individual predictions of shelf-life. Those which do not, should be clearly distinguished. Either no predictions should be made or at least it should be indicated that they represent guess-work. In this fashion they will not impair the reliability of the other results and discredit the whole accelerated testing program.

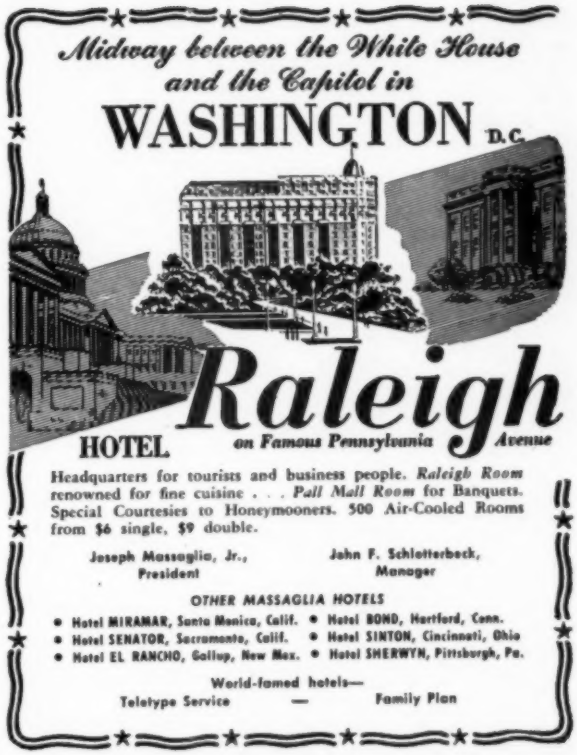
HOW WE SELECT OUR MANAGERS

(Continued from page 477)

channels of distribution are kept in good running order. Pfizer's relations with 160,000 doctors, 7,000 hospitals, 500 wholesalers and 55,000 drug stores depend almost entirely on the resourcefulness of the detail man and the kind of leadership he gets from the district and regional levels and particularly from headquarters.

I would like to quote from the preamble of the Pfizer program for the selection and development of management personnel because it effectively states the purpose which we had in mind.

> "The purpose of the program is to provide the means whereby top management may effectively staff its organization for perpetuation of the Company's operations."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As the Company became larger and its operations more diversified, the staffing problems increased. The program has been set up so that a minimum of chance will remain in the manner of selection and upgrading of individuals for important managerial and administrative assignments. There are two corollary objectives:

1. To maintain a continuing supply of promotable managerial personnel.
2. To improve the effectiveness of management personnel at all levels.

The basic document in our management selection program, is the "job description." When the program began to take shape, a job description was completed by each man holding a professional, administrative or supervisory position. The job descriptions were checked over by each man's supervisor and are now a permanent part of our personnel files.

As we completed job descriptions for each position, we set up what we call *optimum man specifications*. The optimum man specification identifies the personnel requirements for each job. It sets forth the job knowledge, the experience and the training a man must have to function in a particular job in what we feel is a satisfactory manner. Obviously, the optimum man specification represents the ideal and we use it merely as a guide. Here is an example of how it works:

We are now in the process of selecting a new regional manager. One of our district managers may be upgraded to manage a newly created sales region.

Optimum Man Specifications—Regional Mana

Degree in natural sciences (pharmacy, pre- , biology)

3-5 years as District Manager

Demonstrated leadership

Complete knowledge of product line and its various applications

Requires comprehensive knowledge of divisional operations, policies and procedures.

Has demonstrated ability to effectively deal with retailers, wholesalers, all types of government outlets and medical and dental professions.

Has demonstrated ability to select and train effective Professional Service Representatives.

Has demonstrated ability to select and develop potential district managers.

Age—Health—Appearance—Personal History

The next phase of our program is what we call our personnel inventory plan. The moment the detail man I told you about a few minutes ago gets on the Pfizer payroll, he becomes a part of this personnel inventory plan. The reason is almost obvious: Since the overriding policy of our company is to promote men from within the organization, we want to know as much about them, for as long a period as we possibly can.

Four times a year our man is formally appraised by his district manager. A system of points is used to rate each man. Obviously, a territory covering the Ozarks presents different problems than one which includes the doctors on Park Avenue.

Probably the most important feature of this phase of the program is the discussion of the rating with each man. Our district managers are on the road most of the time, travelling and working with the man. This gives the district manager an opportunity to discuss the representative's shortcomings with him and to suggest ways of overcoming them, and of course to stimulate the good men to better performance.

The district managers themselves are rated quarterly by the regional managers. Naturally, we are interested in different kinds of performance data for the district manager. Let me show you the characteristics we feel are important.

A. Personal characteristics
B. Working characteristics
C. Reporting
D. Sales

Here again, the point score system is used, taking into consideration the nature of the district the man is supervising.

While there is no formal appraisal of the detail man or district manager in terms of his potential for advancement, the rating file serves as our number-one guide for promotions when vacancies occur. We have on file the continuing record of performance, showing us which men have the capabilities and characteristics for the next highest job. We also have a record indicating which men have done the most to overcome the weaknesses which showed up in their early appraisals. Thus, very little is left to chance when we have an opening at the district or regional manager level.

Next comes the performance measure for our regional managers and our headquarters group. We have distributed a form which we use for this purpose.

I call your attention to the thoroughness with which the future executive is evaluated. The appraisal is conducted regularly and at least semi-annually by the man's immediate superior. Other executives who come into contact with him in a supervisory capacity may also join in making the appraisal.

The appraiser also records his views on the suitability of the man to his present job. If the man is not felt to be suited to the job, the appraiser is asked to recommend another assignment. The appraiser also lists the man's strong points and his weaknesses. He recommends additional training which might improve the man's effectiveness in his present job. And, as one of the most important clues to progress—or lack of progress—we ask the appraiser to review the changes in the man's effectiveness since the last appraisal.

The next thing we are interested in is the future executive's potentiality for advancement. The appraiser is asked to list one or more higher positions for which he feels the man is qualified. As you can see, we are interested in finding out not only whether the man is qualified in his own field, but in others as well. This gives us a clue as to whether he could be promoted, even though he might be blocked in his own department. Then, to give us all the information we need, we ask the appraiser to give us his impression of the

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Available in a range of types, including two-piece units with removable support plates, two-piece units with integral support plates, and three-piece sectional units. Sizes range from small laboratory filters up to units of 100 gallon capacity.

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Fabricated of Plate and Bar Stock
Developed Specifically for The Pharmaceutical Industry
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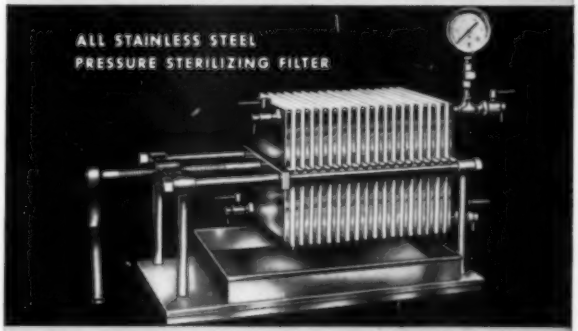

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man's readiness for advancement. We ask for more than a yes-no answer and are more interested in knowing the number of years or months the appraiser feels the man will require to be ready to assume greater responsibility.

Finally, the appraiser is asked to list supplementary training and experience which, in his opinion, the man needs to become better qualified for advancement. Later, I will give you an idea of the training techniques we employ at Pfizer Laboratories for this purpose.

Now, we have our organizational chart, our job specifications, our optimum man specifications, our individual performance records and our appraisal of potentiality. The next phase of our program consists of weighing the appraisals against the optimum man specifications. At the same time, we prepare replacement schedules, showing which jobs will be vacant through retirements and promotions and how long it will be before vacancies occur. We then list the candidates for each job in the order of qualification at that particular moment.

The last, and in some ways the most important, part of our program, is the individual development plan. If you recall, our personal appraisal record requires the individuals who make the appraisals to suggest the supplementary training and experience the executive should undergo to better qualify him for advancement. Here are some of the in-company techniques we use at Pfizer to help develop our executives. Our training department conducts regular supervisory development

MOULDS

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In the way of out-of-company training we are believers in the management courses sponsored by the American Management Association. About a dozen of our company executives have completed this course during the past year while another 13 are in various stages of completion.

We also have a high regard for the value of the workshops and seminars sponsored by the American Management Association, The National Industrial Conference Board, The Sales Executive Association, The American Drug Manufacturers Association, The American Pharmaceutical Manufacturers Association and other groups. Our people find that the exchange of ideas stimulated by this kind of activity is highly rewarding and more than worth the time and effort expended.

Now, as you consider the Pfizer case history, I do not want to give you the impression that this program was installed, lock, stock and barrel, at one time. No one sat up in an ivory tower. No one handed us the plan and told us: "Here, this is it . . . this is just what Pfizer needs; now you run with the ball awhile and make sure you don't fumble."

No, this program of ours has evolved slowly and is, by no means, complete. Some of the phases I discussed with you are being modified as we gain more experience with it.

How can we measure the success of the program? That's a tough one to answer. Results can be measured only over a long period of—probably ten years or more. The fact that our sales and earnings have gone up over the past few years is only one criterion, and we by no means intend to sit back and say that we have found something that will insure the success of our company for all time.

The American drug industry has brought forth miracles from the laboratory; it has performed unusual feats of marketing and distribution. The one area in which great strides can yet be made, however, is in the field of management selection and development.

Our industry is particularly sensitive to the need for efficiency in management. It frequently is criticized for the high prices of some of the newer drugs. Regrettably, the public which foots the bills may not always fully appreciate the tremendous expense involved in maintaining huge laboratories and new-drug screening programs like ours at Pfizer. They do not realize that for each one successful drug, our industry has spent untold time, effort and money to develop many, many dozens of others which because of some shortcoming, cannot be marketed.

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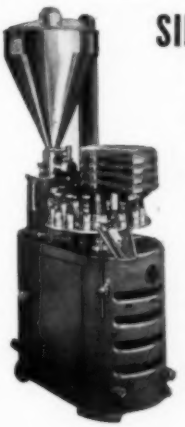

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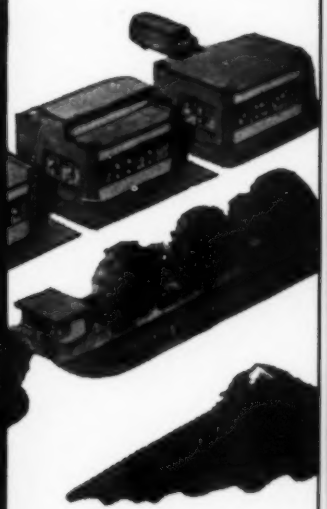

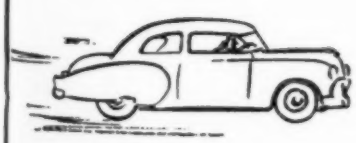

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